







Q710 H87

HUGHES

TOWNS AND TOWN-PLANNING

192390



SAN FRANCISCO PUBLIC LIBRARY

# DATE DUE

<del>---</del>	MAR 10 '83		
	NOV. 06 1997		
7-2304			
GAYLORD			PRINTED IN U.S.A.





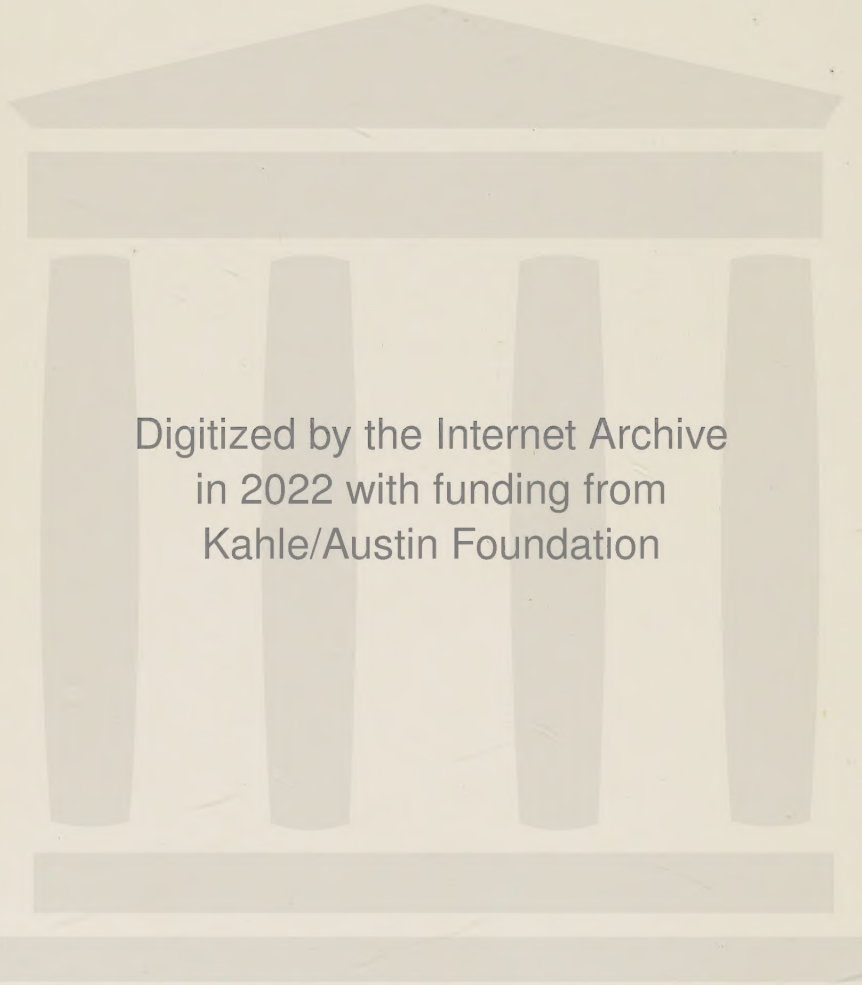






*Down through the water meadows  
Beyond the little streams,  
Beyond the running river  
Is built the Town of Dreams ;  
Over above the cornfields  
Golden against the blue,  
High on the hills of sunset  
The City of Dreams-come-true.*

MAY CANNAN.

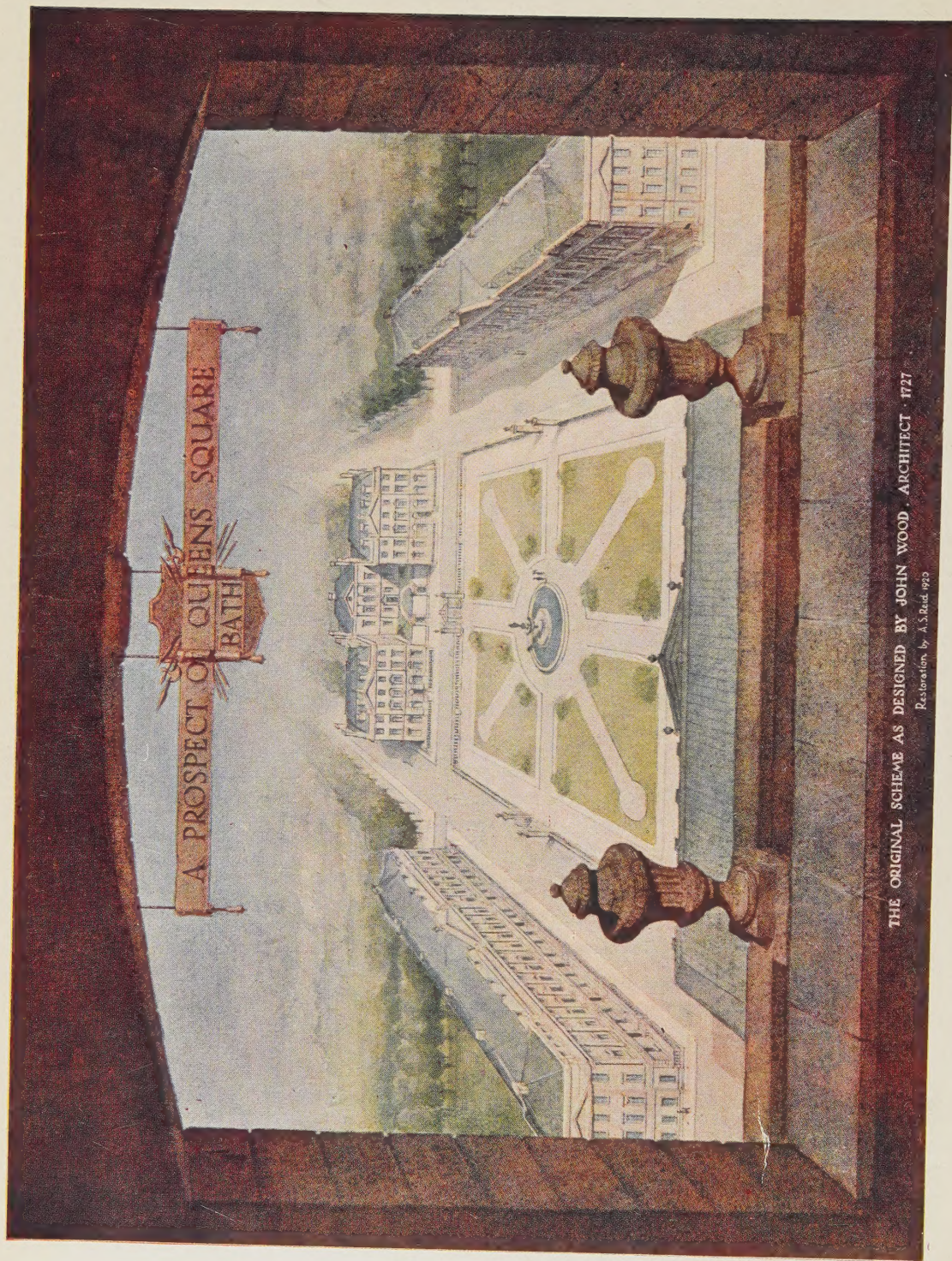


Digitized by the Internet Archive  
in 2022 with funding from  
Kahle/Austin Foundation









THE ORIGINAL SCHEME AS DESIGNED BY JOHN WOOD, ARCHITECT - 1727

Restoration by A.S. Read 1973



T O W N S  
AND  
Town-planning  
*Ancient & Modern*

BY

T. HAROLD HUGHES

*Fellow of the Surveyors' Institution  
Associate of the Royal Institute of British Architects*

AND

E. A. G. LAMBORN, HON. M.A. OXON.

*Author of 'The Story of Architecture in Oxford Stone'*



OXFORD  
AT THE CLARENDON PRESS

1923

Oxford University Press

*London Edinburgh Glasgow Copenhagen*

*New York Toronto Melbourne Cape Town*

*Bombay Calcutta Madras Shanghai*

Humphrey Milford Publisher to the UNIVERSITY

8710

H87

192890

Printed in England



## PREFACE

‘MAY my candle go out with a stink,’ said Fuller, with his quaint wit, ‘when I forget where I lighted it.’ In our inquiries into the history of our subject we owe both light and guidance to the work of the late Professor F. Haverfield on *Ancient Town Planning*, to Professor J. F. Tout’s Essay on *Mediaeval Town Planning*, and to the articles contributed by Dr. Page and by the late Sir W. St. John Hope to *Archaeologia* and the volumes of the Victoria County Histories. But men, and books, need warmth as well as light; and the warm interest taken in the progress of our work by Mr. J. de M. Johnson, Assistant Secretary to the Delegates of the Clarendon Press, has been to us a constant encouragement that we wish with no less warmth to acknowledge.

T. H. H.

E. A. G. L.

3 Sept. 1922.



## CONTENTS

I. A BRIEF HISTORICAL SKETCH . . .	I
II. TOWN AND VILLAGE IN BRITAIN . .	36
III. THE MODERN MOVEMENT . . .	97
IV. THE FUTURE . . . . .	124
INDEX . . . . .	153





# LIST OF ILLUSTRATIONS

A Prospect of Queen's Square, Bath. The original scheme as designed by  
John Wood, Architect, 1727 ; restoration by A. S. Reid, 1920 *Frontispiece*

FIG.	PAGE
1 Selinus. Plan . . . . .	3
2 Panorama of Priene, according to the German Excavations of 1895-8. From the picture by A. Zippelius . . . . .	5
3 Aosta. Founded by Augustus, 25 B.C. Plan . . . . .	6
4 Streets in Timgad. From a photograph . . . . .	7
5 Silchester, a Roman town in Britain of the first century A.D. Adapted from the 6" Ordnance Survey Map, by permission of the Controller of H.M. Stationery Office . . . . .	8
6 The Roman Fora, showing the planning of the Fora of Rome and the axial relation of one to the other, providing vistas and giving greater dignity to the whole . . . . .	9
7 Palmyra. General view of the ruins of the ancient Roman city . . . .	10
8 Palmyra. Restoration of the triple gateway which was planned to face the entrance to the temple enclosure . . . . .	11
9 Segovia. The Aqueduct . . . . .	13
10 Antinöe. A Roman town of the second century A.D. in Egypt. Plan . .	14
11 Imperial Rome. From a model in the Free Public Museums, Liverpool. Reproduced from a photograph by Richard Brown, by permission of the Curator of Museums, Liverpool . . . . .	16
12 Praeneste, the modern Palestrina, twenty-three miles east of Rome. General view of the city as at the end of the first century A.D. From a restora- tion made by H. Chalton Bradshaw, A.R.I.B.A., and reproduced by his permission . . . . .	18
13 Montreuil. Plan of a mediaeval fortified town . . . . .	20
14 Avila, a Spanish walled city. View of Gateway . . . . .	22
15 Avila. General view of the walls . . . . .	23
16 Avila. View of part of the walls . . . . .	23
17 Montpazier, one of the ' Bastides ' planned for Edward I in France. Plan	25
18 Calais. From a British Museum manuscript (Cott. MS. Aug. I. ii. 70) . .	26
19 Rome. The Farnese Palace. Begun by A. da San Gallo early in the sixteenth century. Plan and elevation . . . . .	28
20 Rome. Piazza del Popolo. Plan . . . . .	28
21 Ideal City. Designed by Scamozzi (1552-1616). Plan . . . . .	29
22 Richelieu as laid out by Lemercier, 1638. Plan . . . . .	30

FIG.		PAGE
23	Richelieu. View looking up the main street of the town from the Porte de Chinon . . . . .	30
24	Nancy. Plan showing the relation of the Hemicycle to the Place de la Carrière and Place Stanislas, as laid out by Héré, 1750-7 . . . . .	31
25	Nancy. General view of the Hemicycle . . . . .	31
26	Karlsruhe. Plan, showing the original area of the town as laid out in the eighteenth century on a radial plan in front of the palace . . . . .	33
27	Chichester. Adapted from the 6" Ordnance Survey Map, by permission of the Controller of H.M. Stationery Office . . . . .	37
28	Bygrave, near Baldock, Herts. An example of a Saxon village. Based on the 6" Ordnance Survey Map, by permission of the Controller of H.M. Stationery Office . . . . .	43
29	Radnor. From Speed's <i>Theatre of the Empire of Great Britain</i> , 1611. Plan . . . . .	45
30	Norwich. Adapted from the 6" Ordnance Survey Map, by permission of the Controller of H.M. Stationery Office . . . . .	45
31	Shrewsbury. Adapted from the 6" Ordnance Survey Map, by permission of the Controller of H.M. Stationery Office . . . . .	45
32	Edinburgh. View showing the primitive Hill Fort. From a drawing by F. C. Mears, and reproduced by his permission . . . . .	46
33	Astbury, Cheshire. The Village Green . . . . .	48
34	Ashbourne, Derbyshire. View of the village in the early seventeenth century, from an old manuscript, by permission of the Keeper of the Public Records . . . . .	49
35	Witney, Oxford. The Town Hall, with Market House beneath, and Butter Cross. Late seventeenth century . . . . .	50
36	Shrewsbury. The Market Place. The surrounding buildings are shown as in their original state . . . . .	51
37	Ludlow. Adapted from the 6" Ordnance Survey Map, by permission of the Controller of H.M. Stationery Office . . . . .	54
38	Portsmouth. Plan, about 1545 A.D. From a British Museum manuscript (Cott. MS. Aug. I. ii. 15) . . . . .	57
39	Eynsham. Adapted from the 6" Ordnance Survey Map, by permission of the Controller of H.M. Stationery Office . . . . .	59
40	Newport. From Speed's <i>Theatre of the Empire of Great Britain</i> , 1611. Plan . . . . .	61
41	Salisbury. Adapted from the 6" Ordnance Survey Map, by permission of the Controller of H.M. Stationery Office . . . . .	63
42	Carnarvon. Adapted from the 6" Ordnance Survey Map, by permission of the Controller of H.M. Stationery Office . . . . .	66
43	Conway. Adapted from the 6" Ordnance Survey Map, by permission of the Controller of H.M. Stationery Office . . . . .	67
44	Hull, about the time of the siege. Plan . . . . .	69

# LIST OF ILLUSTRATIONS

xi

FIG.	PAGE
45 Winchelsea. Adapted from the 6" Ordnance Survey Map, by permission of the Controller of H.M. Stationery Office . . . . .	71
46 London Bridge. From Visscher's View of London, 1616 . . . . .	76
47 Durham in the seventeenth century. View . . . . .	77
48 Thaxted, Essex. The Guild Hall. The adjacent buildings are shown as in their original state . . . . .	78
49 Sevenhampton, Gloucestershire. View . . . . .	79
50 Yarmouth. Adapted from the 6" Ordnance Survey Map, by permission of the Controller of H.M. Stationery Office . . . . .	80
51 Londonderry. From the Report of Sir Thomas Phillips, 1622. Reproduced by permission of the Worshipful Company of Drapers . . . . .	82
52 The Piazza, Covent Garden, in the seventeenth century. An early ' Town Planning ' scheme in England . . . . .	84
53 Wren's Plan for the rebuilding of London after the Great Fire, 1666 . . . . .	86
54 Evelyn's Plan for the rebuilding of London after the Great Fire, 1666. From David Hughson's <i>London</i> , 1805 . . . . .	87
55 Bath. Based on the 6" Ordnance Survey Map, by permission of the Controller of H.M. Stationery Office . . . . .	89
56 Edinburgh. Adapted from the 6" Ordnance Survey Map, by permission of the Controller of H.M. Stationery Office . . . . .	90
57 Paris. Place de la Concorde from the air. By permission of Compagnie Aérienne française . . . . .	98
58 Paris. Plan of part of Paris, showing the improvements carried out by the Baron Haussman . . . . .	99
59 Vienna. Plans of the inner city before the removal of the fortifications (1857) and after (1887) . . . . .	103
60 Cologne. Plan showing the area of the Roman city, the area of the mediaeval city, and the modern city extension . . . . .	104
61 Philadelphia. William Penn's plan, in the seventeenth century . . . . .	105
62 Washington. General view showing the city as it will be when completed according to the plan of the Commission of 1901. By permission of Charles Moore, Chairman of the Commission of Fine Arts . . . . .	107
63 Chicago. Plan showing the proposed developments and improvements. By permission of the Plan Committee of the Commercial Club of Chicago and E. H. Bennett, Consulting Architect . . . . .	109
64 Port Sunlight, Cheshire. Plan. By permission of Lord Leverhulme . . . . .	111
65 Bournville. Plan. By permission of Messrs. Cadbury Brothers, Ltd. . . . .	113
66 Letchworth. View from the air. By permission of the First Garden City Ltd. . . . .	116
67 Letchworth. Plan. By permission of the First Garden City Ltd. <i>facing</i>	116
68 Letchworth. View of. By permission of the First Garden City Ltd. . . . .	117
69 Letchworth. View of. By permission of the First Garden City Ltd. . . . .	117
70 Cardiff. Cathays Park. View and Plan . . . . .	119

FIG.		PAGE
71	New Delhi. Plan. By permission of the architects . . . . .	120
72	Canberra. Plan of the new city now being built from the designs of Walter B. Griffin. By permission of Mr. Griffin . . . . .	122
73	Canberra. View of the new city as seen from Mount Ainslie and looking towards the Capitol . . . . .	123
74	Eastleigh, Hampshire. Adapted from the 6" Ordnance Survey Map, by permission of the Controller of H.M. Stationery Office . . . . .	125
75	A suburban development suggested by the Town-Planning Bill, prepared by the Manchester Society of Architects, 1909, and reproduced by their permission . . . . .	127
76	Dundee Improvement Scheme. By permission of J. Thomson, City Engineer, Dundee . . . . .	131
77	Bath Improvement Scheme. By permission of Robert Atkinson, F.R.I.B.A. . . . .	136
78	System of Main Thoroughfares. By permission of John A. Brodie, M.I.C.E., City Engineer, Liverpool . . . . .	140
79	An example of Street widening. By permission of John A. Brodie, M.I.C.E., City Engineer, Liverpool . . . . .	141
80	Diagrams showing (1) sub-division of a main avenue ; and (2) a street in a residential district . . . . .	141
81	Diagram showing density of car traffic in central area of Glasgow. By permission of James Dalrymple, General Manager, Glasgow Corpora- tion Tramways . . . . .	142
82	Circulation of Traffic. Diagrams showing Points of Collision and ' Gyra- tory System ' . . . . .	143
83	Distribution of Park Areas. London and Paris . . . . .	145
84	Diagram showing ideal system of distribution and linking up of the parks, open spaces, and playgrounds of a large town . . . . .	146
85	An example of a park with large stretches of grass and fine masses of foliage laid out on broad and simple lines. Hampton Court Palace Gardens . . . . .	147
86	Plan of the Baths of Titus . . . . .	148
87	Plan of a Recreation Centre . . . . .	149
88	Plan of proposed Recreation Centre, Lickey Hills, near Birmingham. By permission of William Haywood, F.R.I.B.A. . . . .	151
89	L.C.C. White Hart Lane Estate, Tottenham. View of Tower Gardens from the Terrace . . . . .	152



# I

## A Brief Historical Sketch

'We seek the city of God and the haunt where beauty dwells,  
And we find the noisy mart and the sound of burial bells ;  
Never the golden city where radiant people meet,  
But the dolorous town where mourners are going about the street.'

JOHN MASEFIELD.

THE new word 'town-planning' was probably coined by some Victorian 'progressive' in the innocent belief that it represented a new art—or science, concerned with problems unknown to our forefathers. The apostle of progress has usually more hope of the future than knowledge of the past ; a very little study of ancient cities proves that the art of planning cities as harmonious wholes was studied and to some extent practised in every age until it was swept away with all other lovely things in that great outburst of materialism we call the industrial revolution.

Man even in Aristotle's day had become a political animal ; he had learned that co-operation was the condition alike of material efficiency and of intellectual and spiritual development, and so he had formed the city-building habit which is the first step in civilization.

The mark of civilized man is that he has learned to live, literally, 'on the square' : when excavation of an ancient site reveals straight streets intersecting at regular angles a civilized mind bears witness to itself in the geometrical pattern, a mind that could not merely design buildings but could scientifically plan their grouping so as to economize material and space, to provide convenient access to each group and each building in it, and to allow air and light to pass with least obstruction.

Egypt provides the earliest example yet discovered of a town-plan, i.e. of a pre-designed pattern formed by organized groups of buildings unified by thoroughfares. It is the small town of Kahun, laid out in regular blocks to house the builders of one of the pyramids more than 2,500 years B. C. Though

only a small and temporary settlement it proves the existence in ancient Egypt of towns laid out according to definite scheme. It proves, too, that in Egypt the economic value of good housing had been realized ; but the monotonous regularity of its oblong houseblocks shows that the designers had no recognition of any but material needs in the workmen who inhabited them. To them, as to Aristotle, a slave was simply ' a tool with life in it '—to be housed well to-day that it might work well to-morrow. And so though Kahun was more sanitary than some of our own neglected slums it was probably as uninspiring as our work-houses, barracks, and public elementary schools.

Of other town-plans in early Egypt we as yet know nothing. We know, however, that the great Egyptian temples had imposing avenues laid out as approaches to them. The avenue at Karnak, paved and lined on each side with sphinxes, was no less than  $1\frac{1}{4}$  miles in length.

Our knowledge of the cities in the Mesopotamian plain is also very incomplete, but it is certain that they were laid out so as to provide a processional way, a broad straight thoroughfare, along which the image of the god could be borne in solemn state from end to end of the city over which he presided. Inscriptions found at Babylon record that Nebuchadnezzar ' paved the Aiburschabu with limestone flags for the procession of the Great Lord Marduk ' and spanned it with a triumphal arch, the Istar Gate. Other streets cutting it at right angles allowed the worshippers to reach the line of the procession ; but how far the rest of the city was laid out on a definite pattern excavation of the sites can alone reveal, though Herodotus speaks with enthusiasm of Babylon as a city laid out with straight streets running at right angles, planned in relation to the river and to the gates of the city wall.

The Greeks, who copied, perhaps from Babylon, the idea of a processional way in their early cities, certainly did not organize the rest of their buildings upon a regular plan until the Golden Age of the fifth century ; and even then the necessities of fortification and the preservation of sacred spots prevented them from achieving in the plan of their architectural groups that unity and subordination of all details to a single great idea which is so beautifully seen in their individual buildings.

The beauty of Athens, for example, like that of mediaeval Durham, depended not upon harmony in the ordered grouping

of a unified scheme, but in the skilful use made of a fine site to erect one beautiful group of buildings in a conspicuous position which at Athens was approached by a long, broad, stately street climbing a terraced hillside. The dwellings of the people were squalid hovels, huddled on the lower slopes, much as the slums of Windsor crowd under the Castle Hill. Indeed, Windsor, though its squalor is greater and its glory less, gives from a distance some idea of the arrangement of buildings in fifth-century Athens.

But the Greek, unlike the modern Englishman, did not live in his slums; his life was spent mainly in the open air, in the gymnasia, agora, theatres, and other places of public assembly; and therefore he beautified these, adorning them with fine paintings and sculpture, and had little inducement to develop the private house.

Still, in the cities built or rebuilt by Hippodamus in the fifth century, and still more in those of the Macedonian age, the first great age of city founding, streets were planned broad and straight, crossing one another at right angles, and dividing the town into regular rectangles so that air and traffic might circulate freely.

Fifth-century cities, some of which may have been laid out by Hippodamus himself, are Piræus, Thurii, Rhodes, Selinus, and Cyrene, where sites were new, so that sacred spots had not to be considered. Examination of them shows in each a definite plan of right-angled streets, including two main thoroughfares crossing in the centre of the city where the agora and, surrounding it, the principal buildings and shops were placed. This agrees with Aristotle's statement that Hippodamus 'introduced the principle of wide, straight streets, and, first of all architects, made provision for the proper grouping of dwelling-houses and also paid special heed to the combination of the different parts

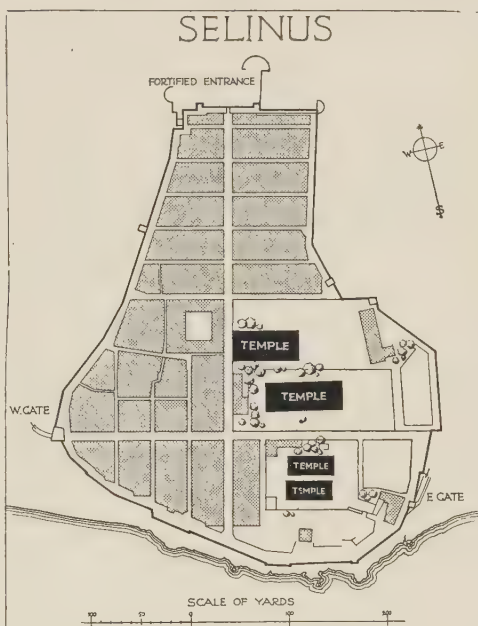


FIG. I



of a town in a harmonious whole centred round the market-place'. At Selinus the two main streets were twenty-three feet wide and crossed each other at right angles. In the space to the north-east of their intersection were placed the chief temples and their precincts. The main street was that running north and south, and this was divided by transverse streets running at right angles to it, forming approximately equal building frontages, the houses lining the street being of simple design and uniform model. The new cities founded by Alexander and his successors in the conquered territories of Asia were laid out and built on pre-arranged plans; a chessboard pattern of crossing streets and rectangular building-blocks marks them all. But it may be noted that the grouping was still the grouping of convenience and that the idea of vistas to and from a central point which unify the whole (such as developed in Renaissance times) was still to come. The agora of the Greeks, as the forum of the Romans, lay to the side of and not on the central point. Many of these cities were settlements of demobilized soldiers, and it may be that its resemblance to a military camp is a factor in the adoption of the chessboard plan, for, as Napoleon knew, the straight streets facilitated the control of the inhabitants by the military garrison, who could easily clear them by a charge or a flight of arrows, just as, on the other hand, the twisting alleys of a mediaeval city rendered invasion a difficult and dangerous matter.

One of the best examples of this type is Priene, a little town on the Aegean coast, rebuilt in the Macedonian age. It was laid out in terraces on a sloping hillside, and, like other Greek cities, walled, with long streets running parallel along the terraces, and short streets crossing them and climbing the hillside by steps—no inconvenience where there was little or no wheeled traffic. Near the centre was a market-place surrounded by public buildings, and the rest of the town consisted of a theatre, a few temples and shrines, gymnasium and stadium, and about eighty blocks of private houses numbering in all some four hundred dwellings and housing a population of perhaps 4,000. Garden ground and open spaces other than the central area were not provided, for they would have made the place more difficult to defend, and their need in a small hill-town was probably not felt.

The rise and development of Greek town-planning is reflected in the growth of building-regulations and by-laws



designed to secure order and convenience in the streets and to safeguard the health of the citizens. Owners were made responsible for the repair of their property and of the adjacent roadway ; and officers were appointed to see that they did not neglect these duties. In addition to the supply of rain water from cisterns a good water supply was brought to the cities by lead or earthenware conduits.



FIG. 2 PANORAMA OF PRIENE  
According to the German Excavations of 1895-8

Many towns of the Alexandrian era, for instance, Alexandria itself, Miletus, Pergamum, and Ephesus, were afterwards largely rebuilt by the Romans, and it is often difficult to decide which race was responsible for the street-plan as we now find it.

The chess-board plan was adopted by Rome at a very early period ; but from what source is still uncertain. Excavations

near Parma, and at other places in northern Italy, have laid bare the plans of settlements of the Bronze Age showing large trapezoidal areas<sup>1</sup> surrounded by rampart and ditch, and divided into quarters by two main streets intersecting at right angles in the centre, near which was a citadel or temple with a rampart and moat of its own; other small streets ran parallel to these. We know also that the Roman augur, seeking a sign from heaven, marked off a square in the sky or on the earth and divided it into four quarters, each of which he examined in succession for portents and omens. Again, when a citizen, like Horatius, was given a share of 'the cornland that was of public right', his

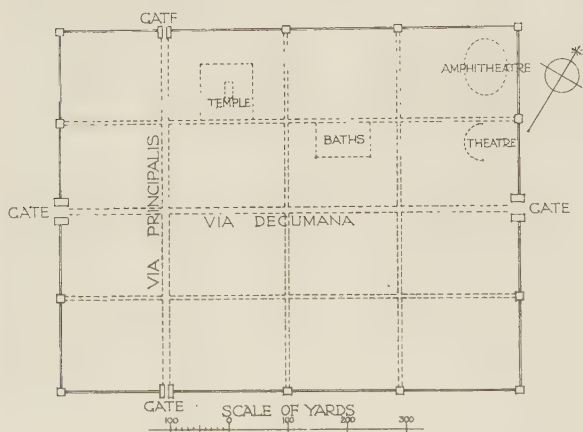


FIG. 3 AOSTA  
Founded by Augustus, 25 B.C.

plot was marked out on the same rectangular scheme still clearly traceable in the field roads of Lombardy. And the tents or hutments of a Roman army were similarly formed into a rectangular camp having two broad thoroughfares dividing it into four sections with smaller avenues running parallel to them, and in the centre, where the main roads crossed, the Praetorium, the head-

quarters of the commandant, and the open space where he might on occasion harangue his troops.

So all the Roman *coloniae*, or settlements of veteran soldiers, were planned with two main streets, crossing at the centre and dividing the town within the walls into four quarters, each of which was subdivided into rectangular blocks, *insulae*, by means of smaller streets running parallel and at right angles to the main thoroughfares. In one of the angles formed at the intersection of the principal streets was usually placed the forum,<sup>2</sup> corresponding to the Greek agora, where the public business of the town was transacted. It was an open square like a cloister-garth or college quadrangle with a portico running round it;

<sup>1</sup> The Trapezoid was used to present water equally into the ditches.  
a sharp angle to a stream and divert the

<sup>2</sup> See above, p. 3.

and upon it opened the basilica or town hall and other public buildings of the city.

The traces of this uniform plan from Asia Minor to western Britain, from the Alps to the Sahara, bear witness to the organizing genius of Rome, the Lawgiver to the Peoples. In Lombardy Turin and Aosta, in Africa Timgad, and in Britain Silchester are notable examples, the plans of which have been completely recovered. The last is of special interest because the excavations carried out in 1890-1909 have given us a fuller knowledge of the town than we possess of any other Roman site in western Europe.



FIG. 4 STREETS IN TIMGAD  
From a photograph

Originally called Calleva, it was the tribal capital of the Atrebates, and after the conquest was retained by the Romans as the seat of local government and was rebuilt on Roman lines, probably within forty years of the conquest, with a forum and basilica, a great inn, public baths, four small temples, and a tiny Christian church. But though it is divided into *insulae* by parallel streets its houses do not show a continuous frontage; indeed many of them are country 'villas' standing in plots of garden ground, so that Silchester is a rare example of an early 'garden city', or rather of an 'urban village'—like seventeenth-century Norwich, which Fuller described as 'a city in an orchard or an orchard in a city'; it has the street-plan of a city with the dwellings



of a rural population, detached and independent. Roman surveyors laid out its streets, but the native builders made no attempt to evolve in them a type of house with blank side-walls to form a unit in a row of frontages. Its area, in proportion to its population, was therefore large. The great wall that now surrounds it was added in the troubled times before the final

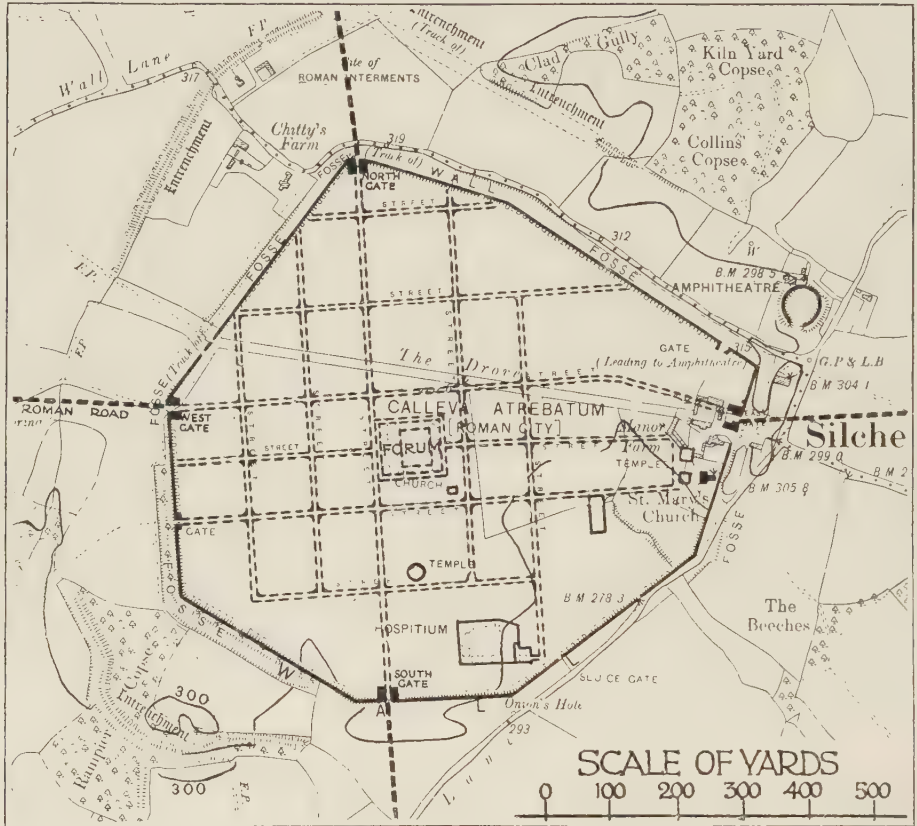


FIG. 5 SILCHESTER

A Roman Town in Britain. First Century A.D. Adapted from the Ordnance Survey Map, by permission of the Controller of H.M. Stationery Office

withdrawal of the Legions; it follows the polygonal lines of earlier earthworks and, therefore, probably does not include the whole area laid out by the Romans, which was almost certainly rectangular in shape.

One curious advantage incidental to the chess-board plan was the simplicity of postal addresses in a rectangularly planned city. For instance, in Antinöe in Roman Egypt, just as in

Alexandria, the whole town was divided into districts alphabetically designated. Each district fell into numbered blocks, and each was subdivided into north and south. The address of an individual citizen might therefore have been

Apollodorus, Letter Gamma, Block 8, South.

The addition of numbers to the London postal districts is in some ways parallel to the ancient practice.

But the greatest and most lasting bequest of Rome to civic art was not a particular type of town-plan but an example of

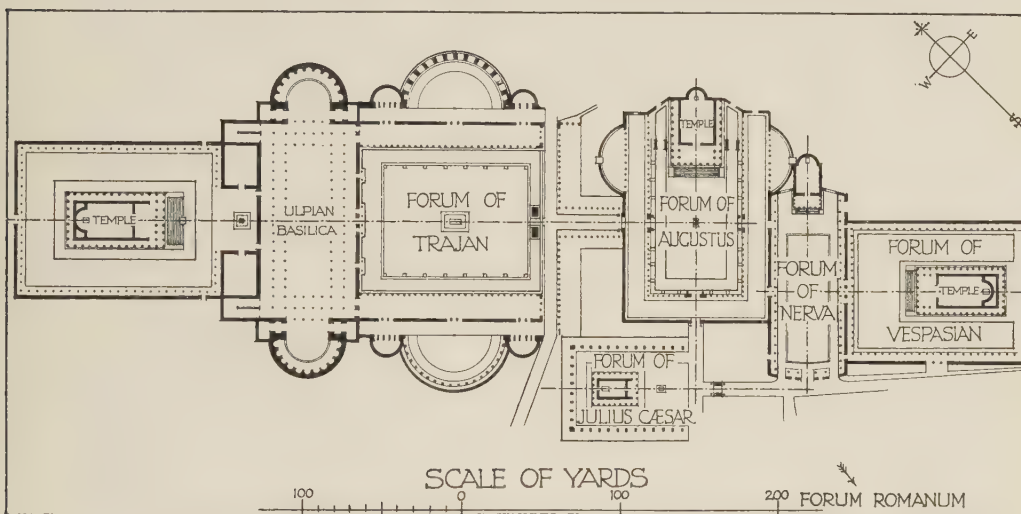


FIG. 6 THE ROMAN FORA

Illustration showing the planning of the Fora of Rome and the axial relation of one to the other, providing vistas and giving greater dignity to the whole

municipal dignity, of using large resources in a large way, of an imperial people thinking imperially and remembering that as a rural township in Britain was a unit in the Empire and shared its dignity, so its public buildings must be on a scale worthy of citizens of the Empire.

Thus a Roman forum in the time of the Empire was always an example of monumental planning and, within its own area, illustrated, by the grouping of its public buildings, the three ruling principles of symmetry, axial line providing vistas, and the subordination of accessory parts to the whole. Roman law speaks in the regularity of plan in their public buildings with their forecourts; the fora of Rome itself, for instance, were so



FIG. 7 PALMYRA General view of the ruins of the ancient Roman city

designed as to be not only complete and symmetrical in themselves but in architectural relation with the buildings and fora already existing.

That important buildings must be well placed for their design to have full effect was clearly realized by the builders of Rome, who, in the surroundings of temple and forum—porticoes, gateways, triumphal arches, and stately colonnaded street—showed their sense not only of the majesty of Diva Roma but of the dignity of a Roman citizen.

The use sometimes made of triumphal arches to close the vistas of long streets gave a grandeur to the imperial cities of which the modern world seems to have lost the secret ; only in France, with some of the most beautifully laid out streets in the world, has it been recovered, and particularly in the Champs Élysées where the Arc de Triomphe stands in an ideal position at the highest point of a long rising street.

France, too, in the Rue de Rivoli, preserves faintly the idea of the covered colonnades that were one of the most striking features in Roman street-planning. But in Rome the colonnades sheltered part of the roadway as well as the pavement and enabled horsemen to ride in the dry and in the shade from one part of the city to another, and so to take exercise in all weathers. Augustus encouraged their erection by his own example in building the great quadrangle called the Porticus Octaviae like an enormous cloister-garth, and by inviting his friends to include them in their plans for new houses and public buildings.



The Roman baths (see Figure 86, Chapter IV), supplying splendid halls for athletic pursuits, rooms for debate, and courts for social intercourse, might well be studied for the solution of present-day problems in the planning of recreation centres as also the disposition of civic ornament, particularly the placing

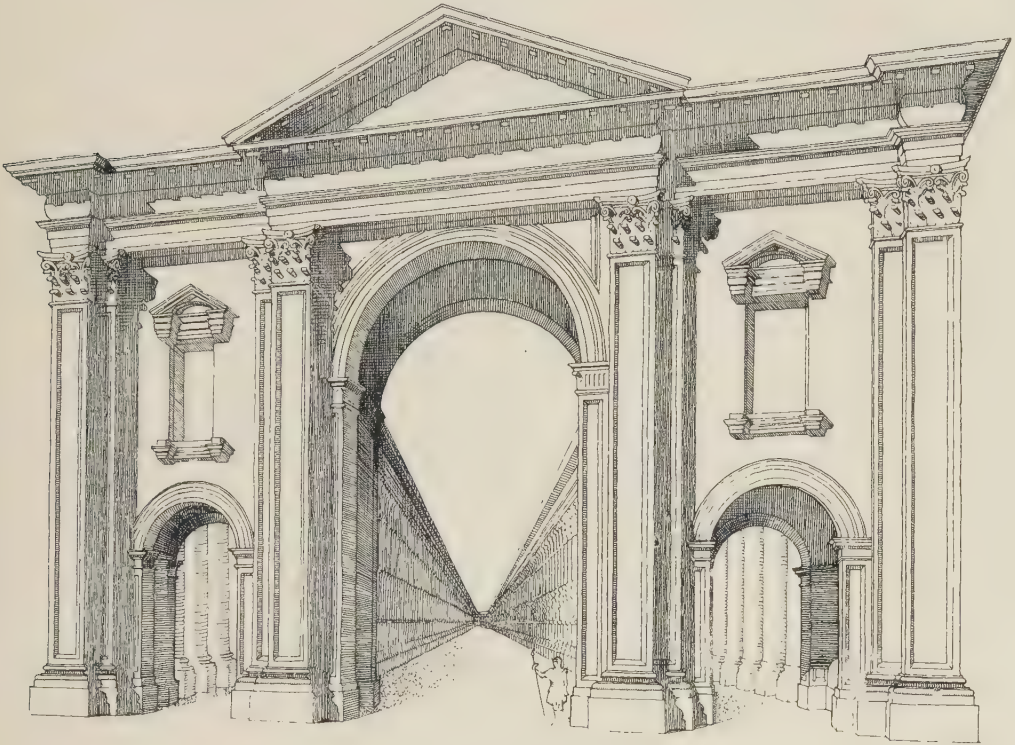


FIG. 8 PALMYRA

This 'restoration' shows the triple gateway which was planned to face the entrance to the temple enclosure. Beyond the gateway the colonnaded street—of great length—was lined with statues which were attached to the columns. The central avenue is 37 feet wide. The side avenues are 16 feet wide and roofed over. The gateway here shown is marked 'A' on the general view, Fig. 7.

of statues in definite relation to their surroundings so that the sculpture may form units in a larger scheme. By this study much may be learnt to improve the haphazard methods of to-day.

The water-supply for the baths as well as for the private houses and for the drainage of the cities was as carefully considered and as efficiently provided for among the ancients as among ourselves. The Greek cities of Asia Minor, like our own, were supplied with water conveyed at high pressure by pipes



underground ; but the Romans, though they well understood the mechanics of water pressure and could at need make water run up hill, usually preferred to carry it across a valley by lofty aqueducts and through the hills by tunnels, perhaps because such a system rendered easier the clearing and cleaning of the channels and also because large iron pipes were difficult to cast, while leaden ones were costly and weak. To this day the course of vanished aqueducts can be traced across the Campagna by the lumps of carbonate of lime thrown out by the cleaners.

Eleven aqueducts brought water into Rome from the springs in the neighbouring hills, and it was led from the distributing centres to the baths, fountains, and private houses by pipes of earthenware, lead, and wood ; the numerous public fountains in the streets and squares still serve to remind the traveller in the Latin countries of the Roman delight in water and of their care to provide their cities with a plentiful supply.

One, at least, of these aqueducts supplied water for flushing the sewers of the city, and three streams were also used for the same purpose carrying the sewerage into the Tiber and the sea, or into the marshes of the Campus Martius. It is probable, however, that many of the private houses were not connected with the city drains, but had private cesspools as in many country towns to-day. In Rome and on the main roads leading out of the city there were wayside places of convenience that might be used for a small fee, but as Martial mentions the keeping of them as the last refuge of the destitute it is probable that they were examples of private enterprise.

The provinces were almost equally well supplied with aqueducts, as we learn not only from their ruins but from such a correspondence as that between Trajan and the younger Pliny, in which the Emperor directs his deputy to take care both to supply the cities of Nicomedia and Sinope with water from springs he has surveyed, and to punish those responsible for the failure of previous schemes. Other letters refer to the covering-in of a rivulet that served as a sewer running down the principal street of Amastris, which Pliny reported as 'not only filthy and unsightly but attended with a very pestilential smell' ; the Emperor agreed that the stream should be arched over. That great care was taken in choosing for a new city a healthy site is proved by the advice given by Vitruvius, a Roman architect, who wrote in the first century A.D. Vitruvius also speaks



FIG. 9 THE SEGOVIA AQUEDUCT

strongly on the subject of laying out streets with regard to climatic conditions. Speaking of streets and alleys he says: 'They will be properly laid out if foresight is employed to exclude the winds from the alleys. Cold winds are disagreeable, hot winds enervating, moist winds unhealthy. We must, there-

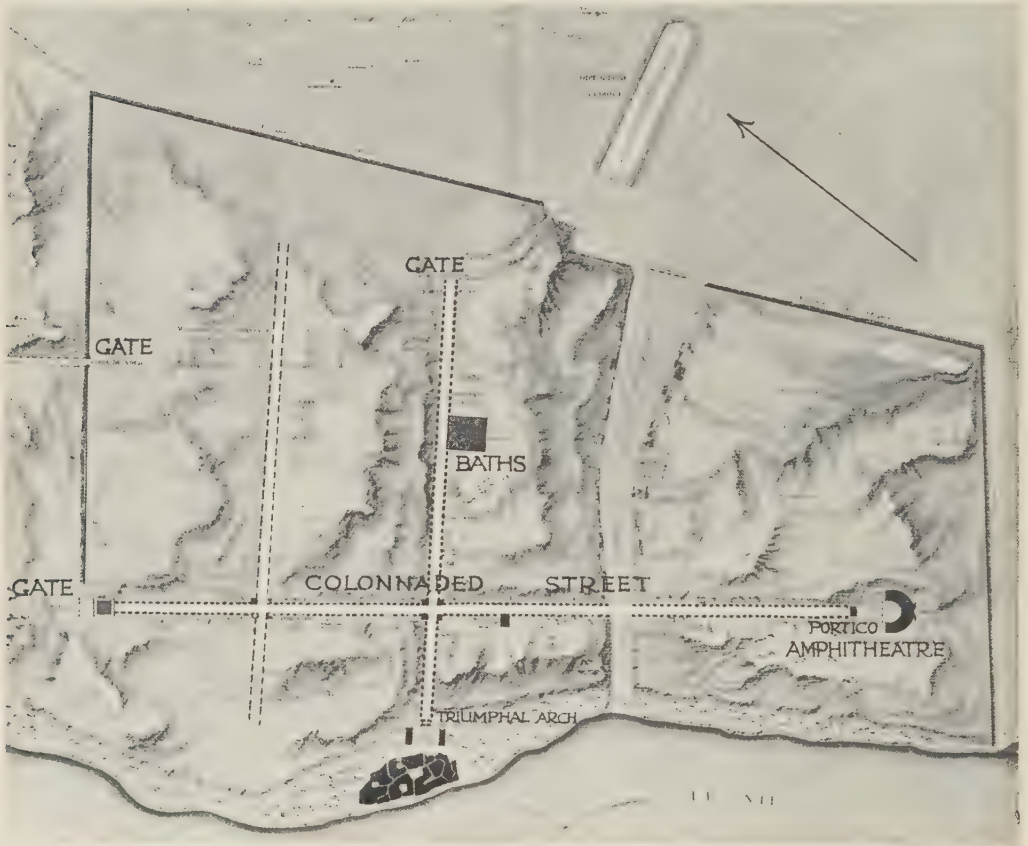


FIG. 10 ANTINÖE

A Roman town of the second century A.D. in Egypt. Note the Triumphal Columns at the intersection of the colonnaded streets and the terminal vistas

fore, avoid mistakes in this matter and beware of the common experience of many communities. For example, Mytilene in the island of Lesbos is a town built with magnificence and good taste, but its position shows a lack of foresight. In that community when the wind is South the people fall ill; when it is North-west it sets them coughing; with a North wind they do indeed recover but cannot stand about in the alleys and streets, owing to the severe cold.'



The disposal of rubbish, domestic and industrial, is a sanitary problem which we with our destructors are even now only beginning to solve. The rural practice of burying it in pits, or of throwing it out of doors on highway or backyard to be carried away by natural scavengers or disintegrated by the weather, has been usual in all ages, and has produced alike the kitchen middens of prehistoric lake villages and the rubbish mounds of Egyptian cities, the débris beneath which Roman London is hidden and the mounds of shells on the site of ancient Sidon from which the Tyrian purple was extracted. In Rome, as among ourselves, there were rag-and-bone men, many of them Jews, who made a precarious living by collecting odds and ends—broken glass is mentioned by Martial as a commodity that could be disposed of to hawkers for sulphur matches. But there seems to have been no idea of scavenging as a public service ; each householder was expected ‘ to sweep before his own door ’ and so to keep the street clean ; yet one of the dangers of Rome, as of eighteenth-century Edinburgh, was from the contents of unsavoury vessels discharged out of upper windows.

Since the days when the caveman ‘ presented his dead to the hyaenas ’ the provision of cemeteries has been a problem of civilization. Primitive man feared annoyance from the spirits of the dead, and therefore pinned the corpse down with a stake or piled stones upon it that the deceased might not return to disturb the inheritors of his property ; the Romans, always practical and matter of fact, seem to have been the first people to realize that bodies, not spirits, are dangerous to the living. The early code called the Laws of the Twelve Tables expressly forbade interments to be made within the city, ‘ ne sanctum municipiorum ius polluatur ’, and this rule was enforced with such strictness that the existence of cemeteries can always be safely employed to define the limits of a town or fort when they cannot otherwise be discovered. Yet as their primitive custom had been to bury the dead in their own houses, while cemeteries are usually found *outside* the sites of Etruscan cities, it may be that in this, as in other matters, they owed the more civilized practice to Etruscan example.

The great roads leading out of Rome, and especially the Appian Way, were lined for many miles with private graveyards purchased by the rich as family burial-places. The tombs built in them were monuments so imposing that Princes Street,



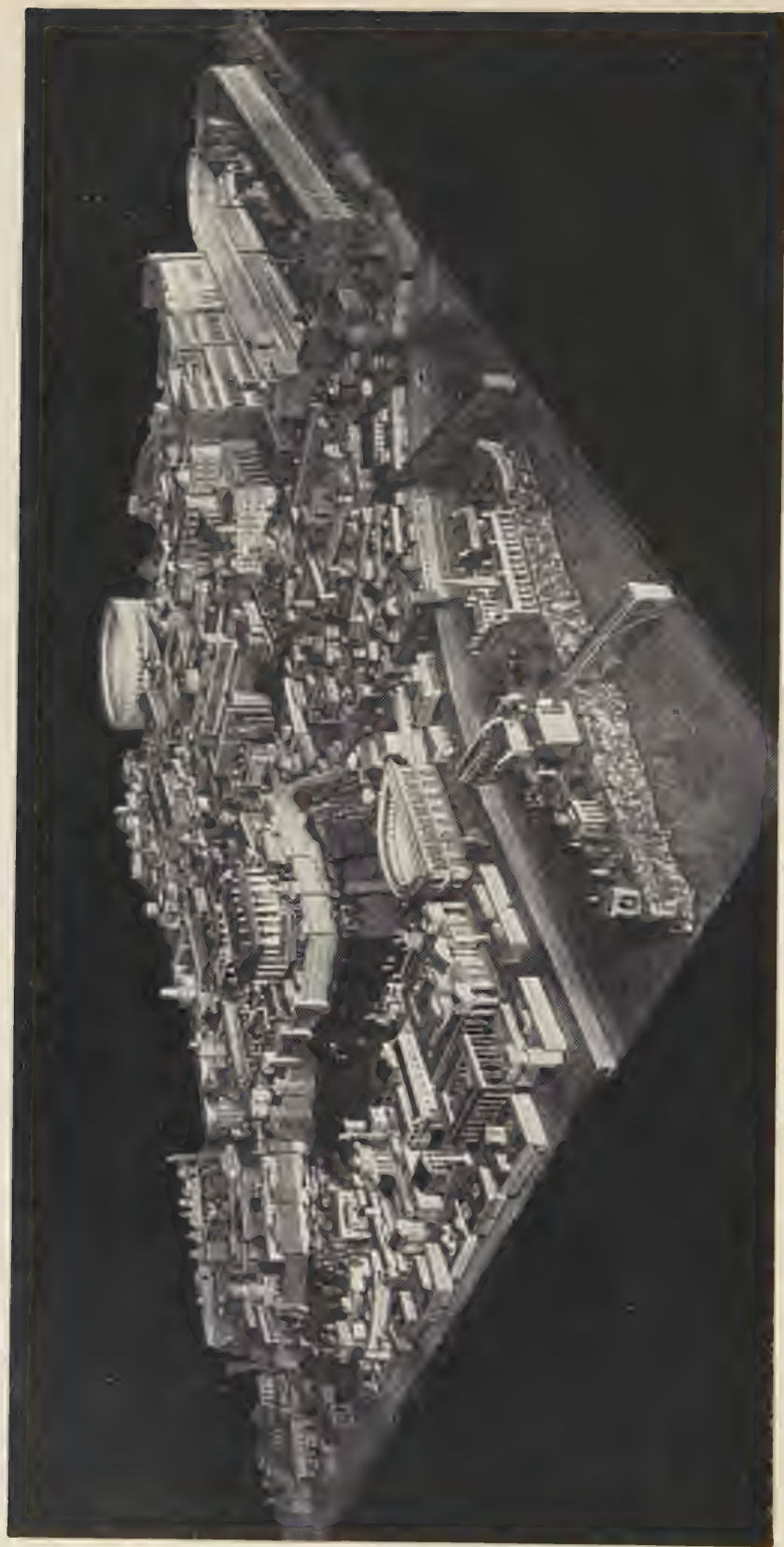


FIG. 11 IMPERIAL ROME

From a model in the Free Public Museums, Liverpool

Edinburgh, would hardly bear comparison with one of the Roman highways near the approaches of the city. So at Pompeii the Street of Tombs is lined on both sides with the monuments of municipal officials.

For the poor there were public cemeteries, the chief of which was on the Esquiline. When the boundaries of Rome were extended to include this site the cemetery was closed ; but being regarded as a public nuisance and a possible source of infection it was laid out by Augustus as a public garden called after Maecenas, who paid for the work, Horti Maecenatiani—a valuable example of what might be done with the depressing and insanitary churchyards that are common features in our ancient towns.<sup>1</sup> The gardens appear to have served as an attraction to the well-to-do, for in the second century the Esquiline had become the fashionable quarter of the city, and the public gardens, like the squares of western London in the nineteenth century, were the monopoly of the rich.

Yet though the civic consciousness of the Romans in matters aesthetic was more highly developed than our own, and its evidences remain for our example, particularly in the provincial cities, there are pictures in Juvenal and Martial which might have warned our statesmen in the nineteenth century of the dangers and miseries attendant on the ill-regulated growth of wealth and population. Although the problem of planning for a rapidly increasing population is mainly modern, it presented itself in Rome and found the Romans little better prepared than ourselves to meet it with prevision and adequate measures. The rich had parks and gardens within and around the city, which checked its natural expansion in a way which has its parallels in modern England. The State trusted to contractors to meet the problem of housing, and allowed them to disregard the old building laws and to run up jerry-built houses of timber to enormous heights in narrow streets intended for buildings of a single story.

The annual rent of a garret in one of these tenements would have purchased the freehold of a country cottage ; and its occupier was exposed to two ever-present dangers, the collapse of the house from jerry-building or earthquake and its destruction by fire. The wealthy kept private fire-brigades of slaves to

<sup>1</sup> Compare the work that is being done in London by the Metropolitan Public Gardens Association.

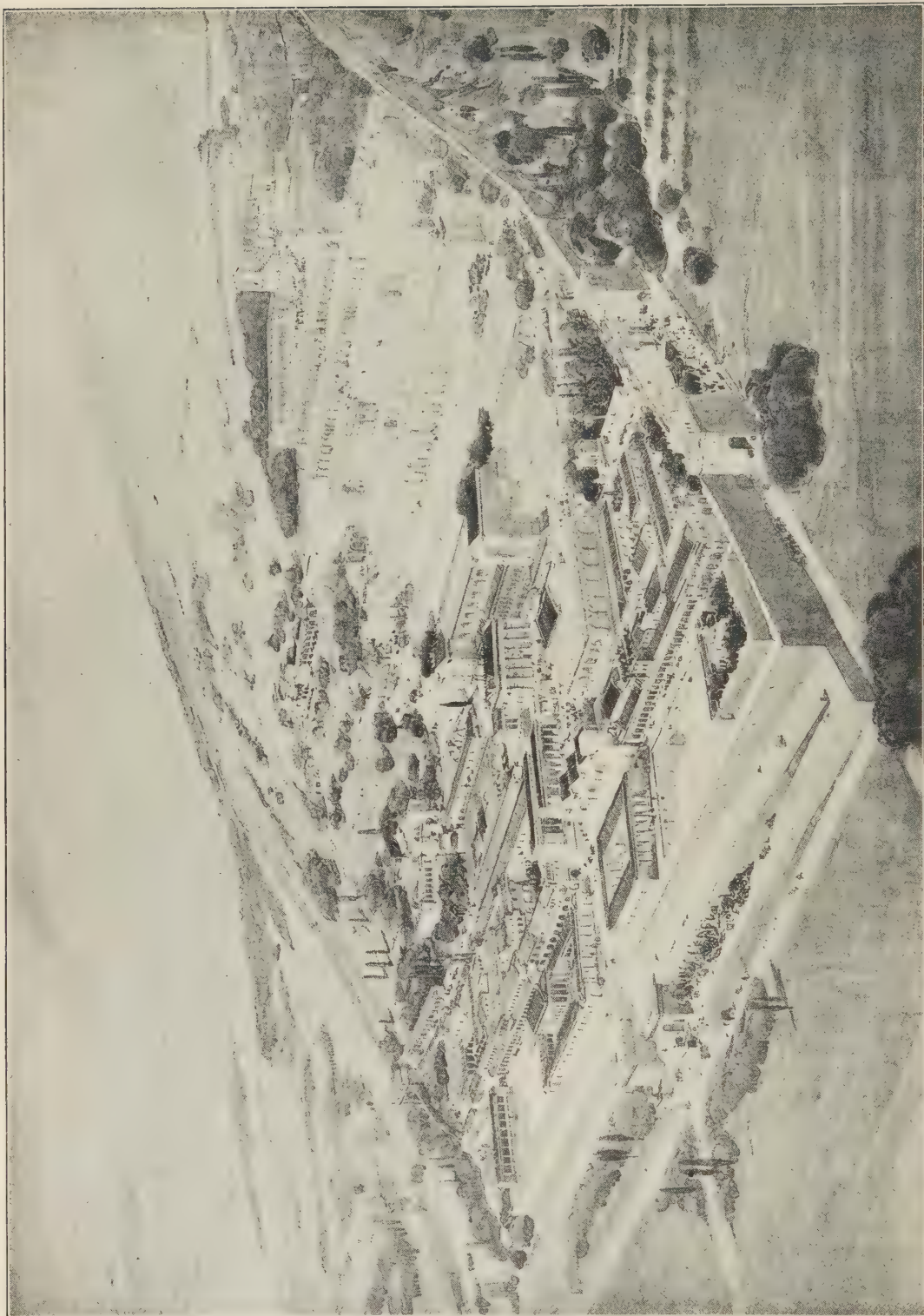


FIG. 12 PRAENESTE

Modern Palestrina, twenty-three miles east of Rome. General view of the city as at the end of the first century A.D.  
From a restoration made by H. Chalton Bradshaw, A.R.I.B.A..



safeguard their premises (though the custom of collecting subscriptions from your friends when your house was burnt down often made a fire actually profitable to the well-to-do), and there were at least seven fire stations in the city with brigades in constant readiness.

The inconvenience and danger was equally great for the public ; the great beams that shored up decrepit houses projected into the narrow streets and made traffic difficult and dangerous, so that wheeled carriages were forbidden during the day in many quarters of the city, though the rich man in his litter rode safely above the heads of the throng. Loose tiles falling from the high roofs sometimes smashed the hard pavement and sometimes the skull of a passer by. Signs hung out over tavern doors, and tables projecting from tradesmen's shops added to the congestion. The narrowest parts of the thoroughfares and, especially, the bridges where traffic was slowed or halted were the haunts of beggars who were thus enabled to force their solicitations upon the passers by. At night the noise of heavy traffic in the narrow streets made sleep impossible even though the windows were heavily shuttered ; but to venture out of doors was to take the risk of being robbed by footpads or assaulted by mohocks or run down by a passing vehicle, for the streets were unlighted and only the rich with their bodyguard of slaves or clients carrying torches were safe from the perils of the night. Antioch and Ephesus alone of ancient cities seem to have had a communal system of street-lighting.

There is a vivid picture of Roman streets and their dangers in Juvenal's third Satire. It was translated by Dryden and imitated in Johnson's London ; but no translation conveys Juvenal's impression as effectively as Stevenson's independent picture of old Edinburgh : ' Public buildings were forced, wherever there was room for them, into the midst of thoroughfares ; thoroughfares were diminished into lanes ; houses sprang up story after story, neighbour mounting upon neighbour's shoulder, as in some Black Hole of Calcutta, until the population slept fourteen or fifteen deep in a vertical direction. The tallest of these *lands*, as they were called, have long since been burnt out ; but to this day it is not uncommon to see eight or ten windows at a flight . . . in one house, perhaps, two score families herded together. . . . The building had grown rotten to the core ; the entry underneath had suddenly closed up, so that the



scavenger's barrow could not pass ; cracks and reverberations sounded through the house at night ; the inhabitants of the huge old human beehive discussed their peril when they encountered on the stair ; some had even left their dwellings in a panic of fear and returned to them again in a fit of economy or self-respect ; when, in the black hours of a Sunday morning, the whole structure ran together with a hideous uproar and tumbled story upon story to the ground.'



FIG. 13 An example of a mediaeval fortified town. Note the strategic value of the site on a spur and the irregular contrivance of the streets within the walls.

the advantage of his capital. He prohibited the rebuilding of tenement houses and of narrow, winding lanes ; he limited the height of private buildings and ordered them to be fronted with lapis Gabinus, so that they might resist future fires, and to be provided with courtyards ; and he himself laid out broad streets flanked with colonnades.

All this in the early days of Rome. Augustus sought to check the evils of overcrowding by a decree that no new houses should exceed seventy feet in height ;<sup>1</sup> but no attempt was made to rebuild the insanitary areas. At last, as in London, a greater fire than ordinary did what the rulers had feared to undertake and swept away a large part of the overcrowded city. Research has robbed Nero of the credit for 'organizing' the fire, but cannot rob him of the credit, which Charles II might have had, of turning it to

<sup>1</sup> Trajan subsequently reduced this limit to sixty feet.

In the dreamful night of the Middle Ages law and science lapsed back into custom and rule of thumb, and town-planning went the way of Roman statute-law and the Greek orders of architecture. Every mediaeval town was primarily a 'city of refuge' to which the neighbouring population could fly for safety when their countryside was invaded; the city wall, then, was its essential feature and largely controlled the others. Since walls have to be repaired and manned, the shorter the line in proportion to the population and area enclosed the more easily defensible the city. The tendency therefore was to crowd buildings together, often around a protecting castle, without garden ground or open spaces, and to reduce the area of streets to the smallest possible minimum. Even a central market-place, round which a town had originally grown, was largely built upon and was reduced to the dimensions of a fairly broad street, or streets, in the centre of the town, from which narrower thoroughfares led to the gates and the open country beyond the wall. The rest of the area was a labyrinth of tortuous narrow lanes between houses built haphazard, regardless of any building by-laws and certainly not conforming to any pre-established plan.

Individual buildings were invariably well-proportioned, and all no doubt had that harmony of style which comes from a common tradition in craftsmanship, so that a mediaeval city was a thing of beauty and charm: so, too, was a suit of mediaeval armour. But any attempt to rebuild the narrow streets with their quaint overhanging housefronts would be no less absurd and disastrous than a proposal to incarcerate the modern soldier in the hauberk of his fifteenth-century ancestor. The monotonous chess-board pattern of Roman planning and the insanitary labyrinths of the Middle Ages were the products of a militarized social system which has long ceased to exist. The wall also influenced the subsequent growth of the city long after it had ceased to fulfil its original purpose; the development of artillery led to outer lines of fortification parallel to the walls and so produced ring-shaped town-plans. To-day the fine boulevards of Paris, Brussels, Florence, and Vienna (see Figure 59, Chapter III) mark the old lines of defensive fortification.

Yet even in the Middle Ages, at least in the earlier centuries, there are many examples of towns laid out *de novo* on a regularly designed plan; and that there were men who had studied the problem and were capable both of conceiving such plans and

laying out towns in accordance with them is proved by a letter written by Edward I to the citizens of London, 21st September 1296, ordering them to elect 'four skilful men . . . persons competent to lay out the plans of towns . . . the most able and clever and those who know best how to devise, order, and array a new town to the most profit of Us and the merchants, and who shall be ready and prepared to go for that purpose where we shall instruct them',<sup>1</sup> and to send them to meet him at the parliament



FIG. 14 AVILA  
A Spanish walled city gateway

he had summoned at Bury St. Edmunds. This writ was issued on the king's return journey from his first campaign in Scotland, and the town he had in mind was Berwick-on-Tweed, which he had just captured and burnt, and which he designed to rebuild and colonize with his own subjects so as to make it an outpost of English influence and a military base.

Of this Scotch project and of Edward's larger scheme of town-planning in Wales more must be said in the next chapter. The legal and administrative ability which earned him the name of the English Justinian and, with his

military genius, made him the greatest of the Plantagenets, are commonly recognized. But that he was also one of the greatest town-planners of the Middle Ages is not so well known. It is perhaps no mere coincidence that in his reign Gothic architecture came to its highest perfection, that the science of mediaeval fortification reached its final stage and, above all, that the first English houses, as distinct from mere dwellings or strongholds, were constructed.

<sup>1</sup> Quatre prodeshommes des plus sachantz et plus suffisantz qui mieux sachent diviser ordonner et arrayer une

novele vile . . . pretz et appareilles d'aller outre pour cete besoigne la ou nous leur enjoindrons.





FIGS. 15 and 16 AVILA  
A Spanish walled city



Yet it must not be forgotten that Edward's ideas, like his language, were not English but French ; and it was from France that his town-planning schemes were derived.

Just as in England the later Saxon kings had founded or 'timbered', i. e. fortified, garrison towns to control the Danes, so in France in the thirteenth century the monarchy established strongholds in its newly conquered territory of Languedoc, a policy followed by the great territorial barons. These were called *bastides*, a word that meant originally only a fortress, as *bastille*, its northern form, still does ; but the lords of these new foundations soon realized the profit of encouraging settlers to take advantage of the security offered by the fortress and to build houses near it. Thus the bastides grew into towns, the names of which still preserve the memory of the attractions offered to the original colonists, as Villefranche which promised them liberties unknown elsewhere, or Sauveterre, Monségur, and La Garde which assured them of safety in a perilous age.

The town was protected by a wall and ditch, usually at the sole charge of the founder ; its outline sometimes varied according to the nature of the site, though a rectangular plan is the rule ; but within the line of fortification a common lay-out marks all the bastides of France, and irresistibly reminds us of the Roman camp and the Roman city—though this may be due less to the survival of Roman tradition than to like needs producing like results.

The site was plotted out in rectangular blocks divided by straight streets crossing at right angles, the main roads running from the gates to the centre where a large square, like the Roman praetorium or forum, occupied the central area and served as a market-place. Round it were ranged the houses of the principal inhabitants with a continuous piazza or covered arcade in front of them usually formed by the projection of their upper stories—for they were commonly built of timber granted by the lord from his adjoining forest : thus while houses were built in the town, land was cleared for cultivation outside it, of which a share was allotted to every settler for his support.

Each house had also a plot of garden ground behind it ; and to economize space within the walls the minor streets were planned so narrow as to be accessible only to foot passengers. This, in a continental climate and in an age when there were no traffic problems, was an advantage to the inhabitants, for it meant shade in summer and shelter from the winds in winter.

The great founders of French bastides were St. Louis and his brother Alphonse of Poitiers ; and it was in their dominions that our Edward I studied the problem and found his examples. He had received the Duchy of Gascony some years before his father's death, and had quickly realized the value of fortified garrisons in establishing order among his turbulent subjects. Altogether about fifty towns were planned by him ; Montpazier and Sauveterre are good examples of his work. Both have a rectangular street system and are bounded by walls. The

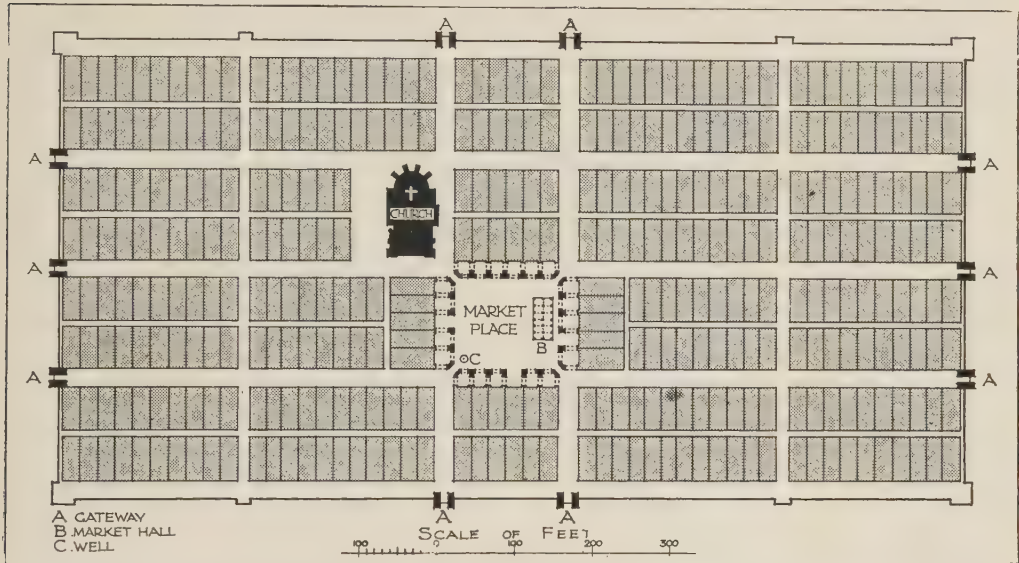


FIG. 17 MONTPAZIER

One of the ' Bastides ' planned for Edward I in France

first is provided with ten gates symmetrically placed, and between these gateways run the principal streets which are cut by smaller streets at right angles, dividing the town into building blocks. Two large open spaces are included, one of which is the market-place surrounded by an arcade—the suggestion, perhaps, of the covered ways or ' rows ' of some English towns ; the entrances from the main streets are cleverly contrived in the angles so that traffic may not interfere with the business of the market.

We were all taught at school how Edward sought to extend English culture among the more barbarous Welsh and Scots, but few of us realized that his policy was common to all the stronger sovereigns of his age. Thus the German monarchs succeeded

in Teutonizing the lands between Elbe and Oder, and established new towns with German garrisons among the Slavs and Letts. The missionary and the merchant, as usual, followed the soldier, and settled under the protection of the garrison ; so the colony grew, and a town was planned to shelter it.

Many towns of Prussia, of Silesia, of Poland, and of Lithuania preserve in the rectangular arrangement of their older portions the evidence that they were originally laid out as bastides or outposts of German civilization in the great town-

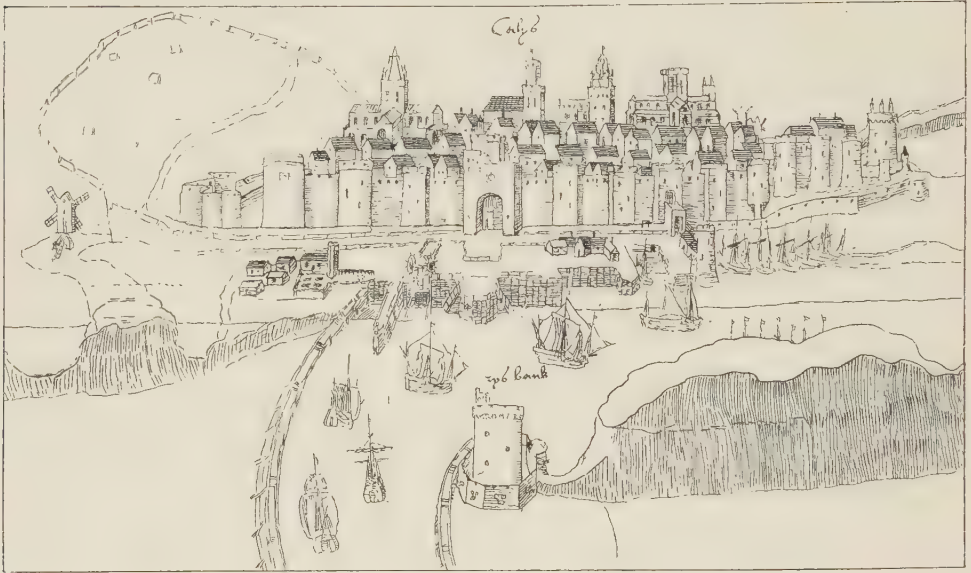


FIG. 18 CALAIS From Cott. MS. Aug. I. ii. 70

planning movement of the thirteenth century. The modern plans of Cracow, the ancient capital of Poland, and Breslau show clearly the typical bastide lay-out in their central portions. And even in far eastern Vilna the regularity of plan in the centre contrasts so strongly with the haphazard arrangement of the later suburbs as to suggest that here too the nucleus of the city was scientifically laid out.

The thirteenth century was in many respects a false dawn ; the town-planners, like the friars and Simon de Montfort's parliament, illustrated the fate of the seed that fell on stony ground ; in the strife of the later Middle Ages more towns were destroyed than were improved. Yet war produced at least one scheme of town-planning, when Edward III, remembering his



grandfather's Berwick policy, expelled the French inhabitants of Calais and rebuilt the town as a military base, laying it out as an English bastide with a population of his own subjects. The old town of Calais, lying between the modern railway station and the sea, still preserves in its street plan the rectangular lay-out of Edward III's surveyors.

Even in the fifteenth century, that darkest hour that came before the dawn, though no new towns were planned, there are examples of what is now called 'reconstruction'. Thus the part of Amiens that lies immediately south of the cathedral was laid out when the city wall was rebuilt on a new line in 1453; and with so much prevision was the work done that at this day the 'new' Rue des Trois Cailloux remains the principal thoroughfare of Amiens, while the neighbouring streets preserve their fifteenth-century lines.

So in Boulogne that part of the town still called from its regularity of plan the *quartier des carreaux* was laid out in the fifteenth century on the sea-plain lying below the older town on the hill. The *coins menteurs*, 'false corners' or twists that occasionally break the straight lines of its streets, bear testimony to some long-forgotten genius who first dared to vary the traditional rectilinear plan, modifying its gridiron arrangement to meet the special conditions of the site; his *coins menteurs* were designed to break the force of the sea-winds sweeping down the level streets. But convention proved too strong for many of his successors, so that even at the Renaissance the gridiron plan was still applied to all varieties of sites, though Alberti, the Italian architect (1404-72), recommended curves for minor streets, and Sir Thomas More, as we shall see, knew that climate should be considered when streets are laid out.

The great humanist movement of the fourteenth and fifteenth centuries in Italy, caused, or accompanied by, the revival of Classical Culture, had far-reaching effects on the art of town-planning. Italy awoke to the wonders of her architectural heritage and began to emulate it; and with the Renaissance of classical architecture came the revival of the old Imperial qualities of scientific organization, of largeness of scale, of the grand manner in planning, which reflected the civic consciousness of Roman municipalities.

Some of the world's noblest buildings arose in Italy at this



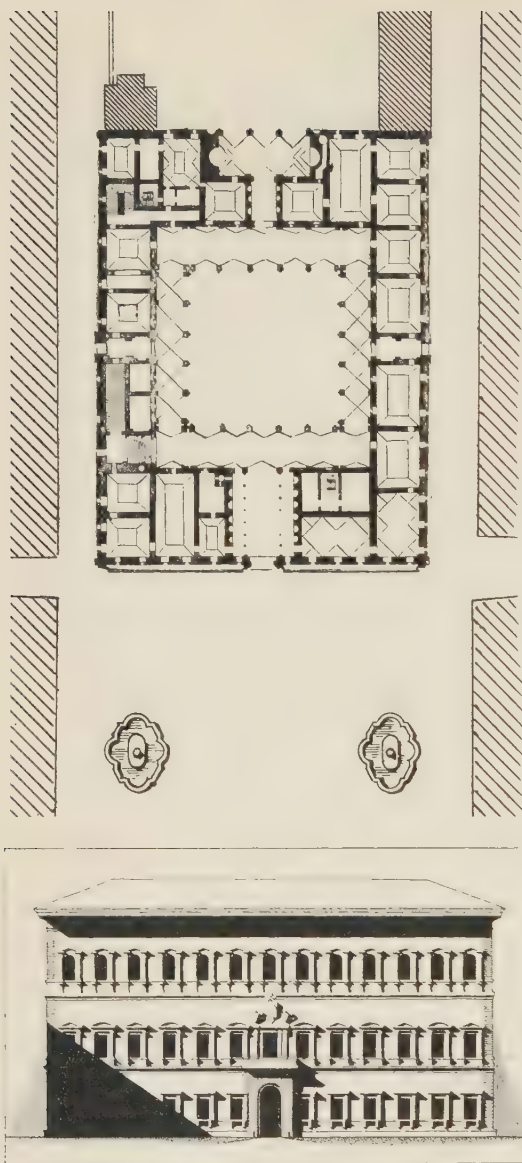


FIG. 19 THE FARNESE PALACE  
ROME

Begun by A. da San Gallo early in the sixteenth century. Note the fine setting provided for this building by the open square in front (see plan above), and, conversely, the added dignity given to the square and street leading up to it by the building

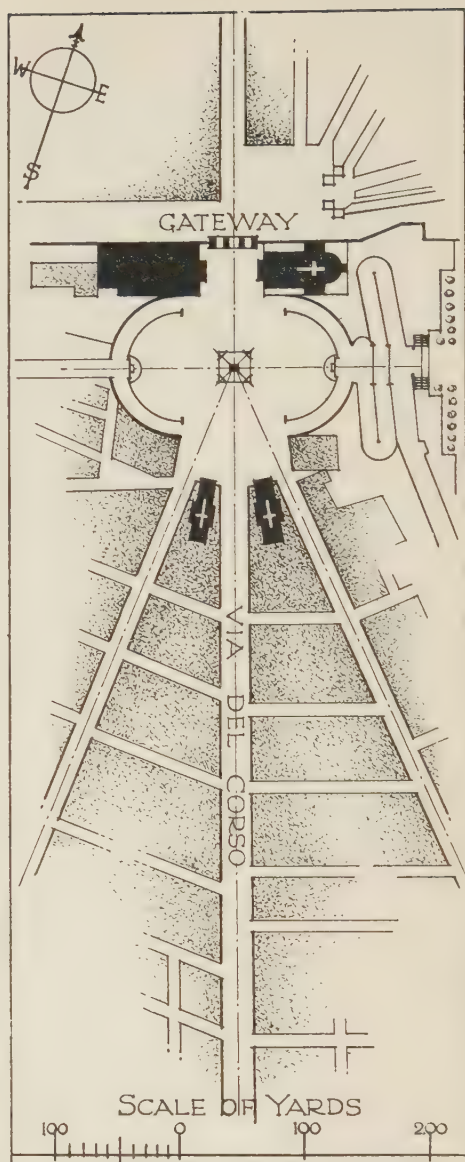


FIG. 20 PIAZZA DEL  
POPOLO ROME

Note the obelisk in the centre of the Piazza forming a vista to the three streets. Note also the important buildings placed symmetrically on each side of the gateway and the importance of the position of the two churches at the end of the Via del Corso

time, and the ideals of symmetry, restraint, dignity, and spaciousness which inspired their architects, urged them to lay out the surrounding streets in correspondence with these qualities, to plan thoroughfares converging upon the important building so that it might impart its glory to the neighbourhood, to provide open spaces or forecourts from which their work might be properly viewed and appreciated (we may compare Bernini's colonnade and Piazza with St. Peter's, Rome), and to link up the details of a whole area in one comprehensive and harmonious design. Typical of the ideal of the time was the desire to unify the mediaeval Piazza della Signoria, Florence. Michelangelo was consulted and recommended the carrying round of the Loggia dei Lanzi, a scheme which was never completed.

To the Renaissance intellect it was obvious that it was not sufficient that a building should be effective in itself, but that it should contribute to the general architectural scheme. Galeazzo Alessi is reputed to have been the first to plan a whole street, the Strada Nuova in Genoa (1550-60), with deliberate artistic intent to display the palaces with which he lined it, so as to ensure that each gained beauty from its setting while it contributed to the beauty of the whole. At the same time a new beauty was added to civic art by the application of formal design to garden-planning; formal gardening henceforth takes its place in the designs for street improvements and for new buildings both public and private.

Many of these designs got no further than paper: it was the age of ideal commonwealths, and with Andreae's Christianopolis, More's Utopia, and Bacon's Atlantis may be compared

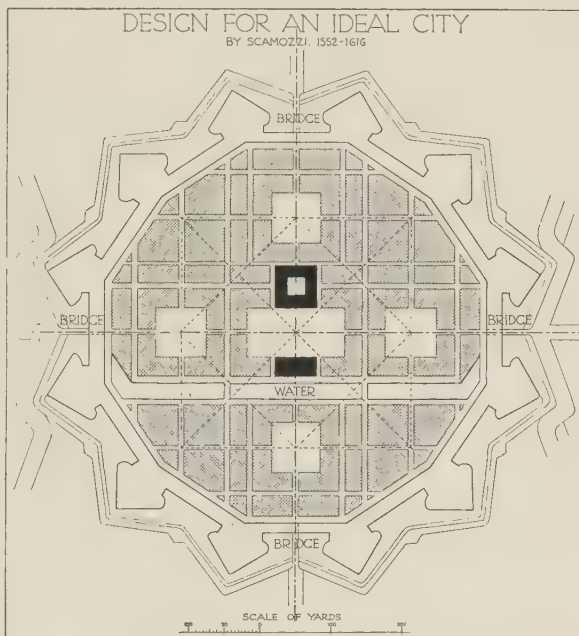


FIG. 21 Note the axial lines and geometrical setting out

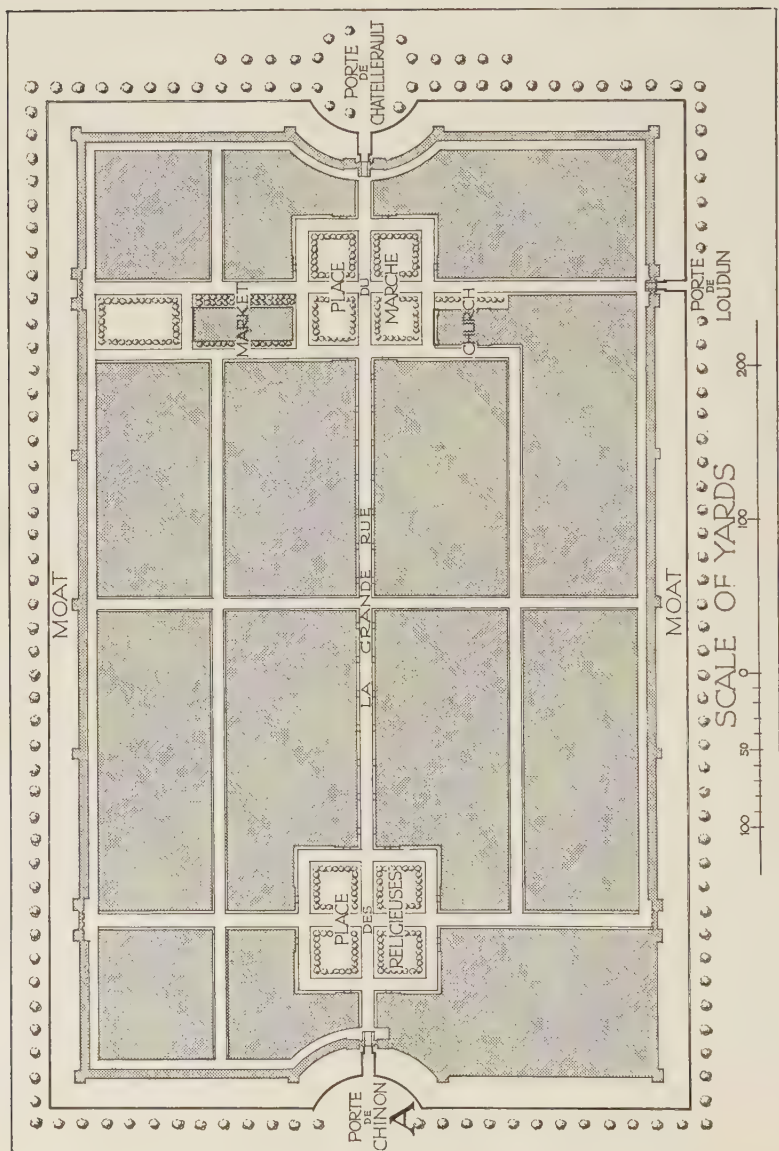


FIG. 22 RICHELIEU  
As laid out by Lemercier 1638

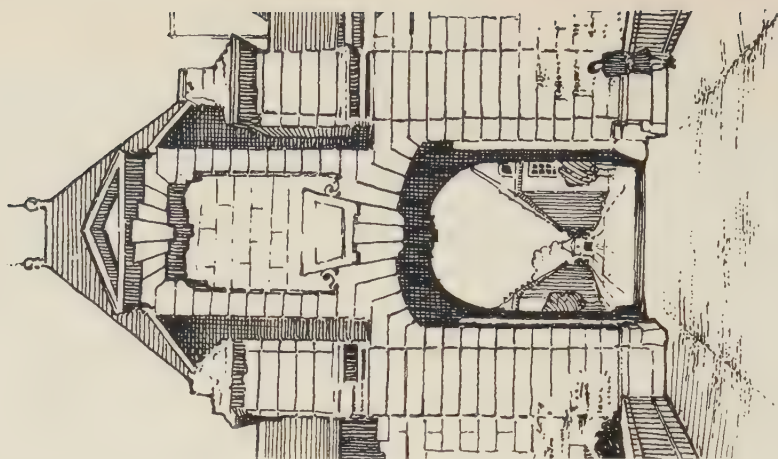


FIG. 23 RICHELIEU  
View looking up the main street of  
the town from the Porte de Chinon  
—marked A on the plan



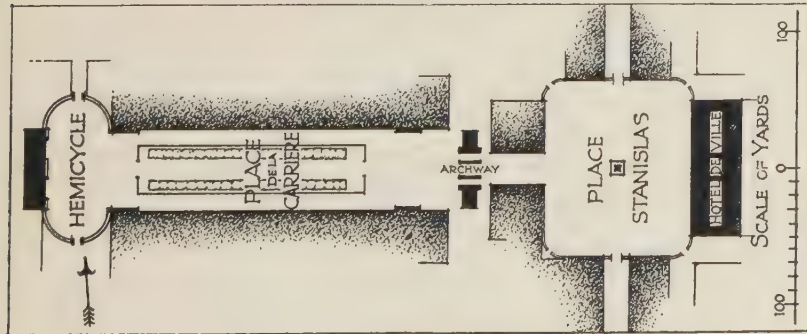


FIG. 24 NANCY  
Plan showing the relation of  
the Hemicycle to the Place  
de la Carrière and Place  
Stanislas and in the centre  
is a public garden enclosed  
by a balustrade. Grilles of  
wrought iron are skilfully  
designed to link together  
the angles of the Place  
Stanislas. The arrow shows  
the direction of the view  
given above



FIG. 25 THE HEMICYCLE NANCY  
(See Plan)

Scamozzi's 'dream city' and Wren's, Evelyn's, and Hooke's plans for rebuilding London. Their ideals went beyond the conditions of their time; they left us no abiding city but planned one that is to come. It is significant that Palladio (1518-80), the great Renaissance architect of Italy, who himself was strongly influenced by the writings of the Roman architect Vitruvius, devotes one of the books of his architectural treatise (*De Architectura*) to a consideration of streets, bridges, squares, &c., showing that town-planning was understood to be an expression of architectural art.

The mighty forces at work in the Renaissance stirred every country of western Europe, and the ideals first revived in Italy soon found expression elsewhere, especially in France. There, as early as 1545, Vitry-le-François was founded by Francis I on a regular plan inspired by Italian models, having in the centre a *place d'armes* from which radiate the four chief streets; and the versatile Bernard Palissy and P. de Chambéry were soon devising schemes for the ideal town, Palissy in his treatise advocating 'square and regular planning in every part of the city'. At the beginning of the next century, of towns built according to the ideals of the time Henrichemont, founded by Sully in 1609, and Richelieu, founded by Cardinal Richelieu and laid out by the architect Lemercier (1638), are good examples; Richelieu was not only designed as a complete whole but was planned in architectural relation to the vast chateau which was built close by. It is not unlikely that the Cardinal talked over his scheme with our English Bacon. For Aubrey records both that 'the learned and great Cardinal Richelieu was a great admirer of the Lord Bacon' and that 'this magnanimous Lord Chancellor had a great mind to have made Verulam a citie again: and he had designed it to be built with great uniformity: but fortune denyed it him, though she proved kinder to the great Cardinal Richelieu, who lived both to design and finish that spacious towne of Richelieu where he was borne; before an obscure and small village . . . The iconographie, &c. of this towne and palais is nobly engraved.' A 'palais' was all that Bacon accomplished at Verulam, but Aubrey makes it clear that this, 'the most ingeniously contrived little pile that I ever saw', was designed as an integral part of his plan for rebuilding the Roman city as a whole.

Interest in the subject was further stimulated by Louis XIV, who looked on the architecture of his towns as the highest means of impressing his own and future ages with the sense of his

greatness. Not only did he induce the Italian Bernini to come to his court, but he encouraged the vast scale adopted by Le Nôtre in the designs for his gardens, the plans of which have had considerable influence on later artists.

In Paris and many other towns large squares and open places became important features in plans for rebuilding. Notable examples are the Place des Victoires and Place Ven-

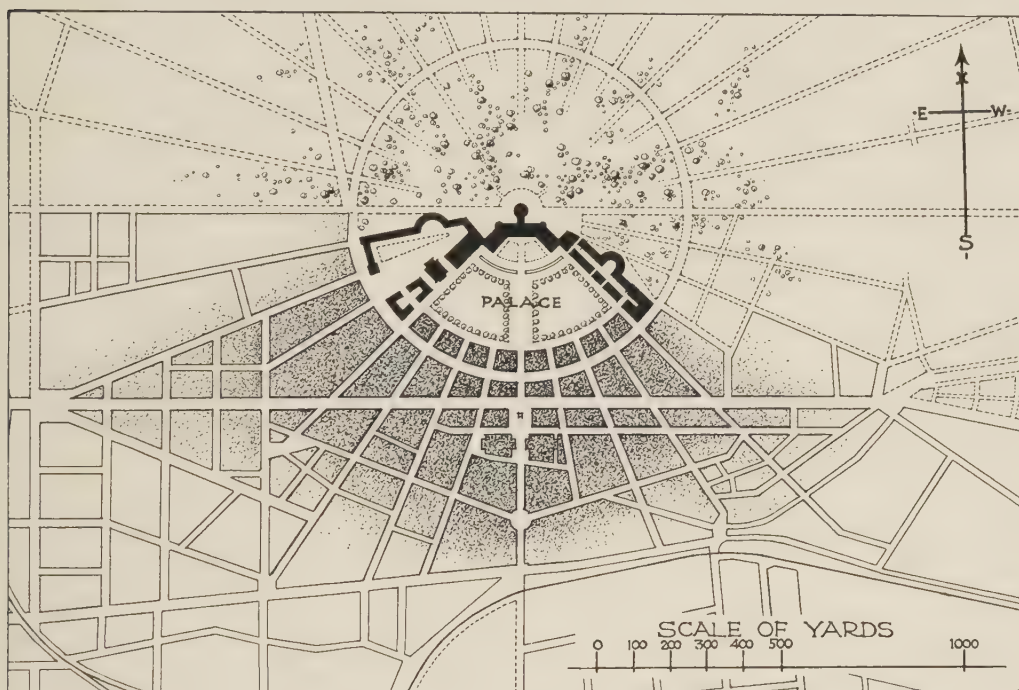


FIG. 26 KARLSRUHE

The original area of this town as laid out in the eighteenth century on a radial plan in front of the palace is shown in grey

dôme. The Peace of Aix-la-Chapelle (1748) was celebrated in many towns by the preparation of plans for laying out new squares or otherwise improving the streets. One of the best examples is to be found at Nancy, where the value of well-proportioned open spaces in setting off a few fine buildings is seen to great advantage.

Germany produced several town-plans, largely under the influence of France. The best examples are found in the towns laid out by princes in conjunction with their palaces—a contrast to the mediaeval town, clustered under the walls of its protecting



castle—such as Mannheim and Karlsruhe ; the latter dates from 1715, and is of particular interest on account of its radial or fan-shaped type of plan, an early attempt to improve upon the mechanically designed chess-board pattern.

In England the greatest of the humanists, Sir Thomas More, wrote his *Utopia*, the ultimate parent of all books on town-planning and kindred subjects. His visionary city was perhaps first suggested by what he had actually seen in Bruges and Antwerp—the most progressive cities of the age. But his description of Utopia shows that he had also in mind the town-plan of the Roman Empire : each city was four-sided and divided into four quarters by its main thoroughfares ; ‘ in the myddes of every quarter there is a market-place of all maner of thynges ’ ; the streets were twenty feet broad and lined with houses of a city type, i. e. ‘ joyned together in a longe rowe throughe the hole streate without anye partition or separacion ’ ; yet they had large gardens behind by which they set great store. Yet More had learned, like the forgotten planner of Boulogne, that streets should not be uniformly straight but should be ‘ appoynted and set forth verye commodious bothe for carriage and also agaynst the wyndes ’.

There were no cemeteries in Utopia, for the dead were burned, as among the Greeks ; hospitals were placed without the walls ; the filth of the city was washed away by diverting streams. For More had not realized the mischief of polluted rivers. The market-places were dignified by the statues of notable men ; the houses were beautiful as well as convenient, and their windows were glazed—an ideal which was not realized in England until the eighteenth century. Most important of all, each city had power to provide for the natural growth of its population by exercising control over the neighbouring lands, so that it might be able at any time to lay out a new colony. ‘ And if they (the occupiers) resiste and rebell then they drive them out of those boundes, which they have marked out and apointed out for themselves. For they counte this the moste just cause of warre, when any people holdeth a piece of grounde voyde and vacaunt to no good nor profitable use, kepyng other from the use and possession of it, whiche notwithstanding by the lawe of nature ought thereof to be nowryshed and relieved.’

More’s ideals bore little fruit in his own age ; the Renaissance in England did not express itself in town-planning until

the eighteenth century, for though various schemes were proposed few of them got further than paper.

The most famous was, of course, Wren's plan for rebuilding London after the Fire. Prior to this Inigo Jones (1573-1652), who had studied in Italy the theory and practice of Palladio, had designed two London squares. But, as we shall see in the next chapter, the growth of the capital was for the most part piecemeal : there was no Edward I among the Stuarts and Hanoverians ; and so the London plans presently to be discussed are rather examples of town-patching than of town-planning.

Even the eighteenth-century schemes in England cannot compare with the foreign examples, except, perhaps, the work of the two Woods at Bath.

Since the thirteenth century we have been too rich to care as a nation greatly for art. And after the eighteenth century we ceased to care for it at all until the revival of interest in the present age.

Contemplation of our cities in the second half of the eighteenth century led Cowper to express the opinion that ' God made the country, and man made the town ' ; it has been suggested that if he had lived to comment on the most characteristic results of the architectural activities of the following century he would have been moved to add : ' and the Devil ran up the suburbs '.

## II

### Town and Village in Britain

‘The place hath yet some ruins to show ; and to instruct the pensive beholder with an exemplary frailty.’—ANTHONY WOOD.

**A** FIRST impression of the lay-out of an average English town or village, gained from a walk through its streets or a glance at its plan, leaves one with a sense of bewilderment at the absence of any apparent scheme or guiding principle on which the roads were laid out. There seems no trace in England of a definite type of plan such as the chess-board arrangement that marks so many of the cities of the ancient world.

Yet a little further study, concentrated especially upon the central portions of our town-plans, will lead to the discovery that English towns fall into two classes. The street plans of the first, the vast majority, resemble an irregular spider’s web with the main lines radiating from the centre ; those of the second are like a gridiron, formed by parallel lines. But in all the larger towns of the second class the central, gridiron portion is surrounded by later accretions arranged like the spider’s web.

This difference in design reflects a difference in origin and history ; the town with parallel streets began as a town and must at some period have been laid out as a whole ; its roads are contemporary with its original buildings. But the town with radiating streets began as a village and grew to its present form without an organized plan ; its main streets are the roads and tracks that connected the original nucleus with neighbouring places, the fortuitous lines of which have largely determined the lay-out of the side streets that branch off from them. In some of our still growing towns, Bournemouth, Reading, Oxford, Aldershot, we can watch the process with our own eyes.

The first towns to be planned in England were laid out by the Roman surveyors. Where, as at Silchester and Wroxeter, the site was deserted at the Saxon invasion and never reoccupied, the Roman plan is easily recoverable ; but when a mediaeval



city afterwards developed on the same site the lines of the original lay-out have usually been overlaid by the débris of centuries of continuous occupation. Carlisle, for example, was a Roman military base, but even in the sixteenth-century maps its plan had lost all vestige of its original lines ; when Rufus re-peopled it with a small colony of foreigners and southerners in

1092, their small settlement below the castle became the focus from which the mediaeval town developed along the main roads in spider-web fashion uninfluenced by the Roman plan. Where the Roman walls were not destroyed their influence on the growth of the later town is often discernible, e.g. their gates, on the site of which the mediaeval gatehouses were built, have usually determined the line of the main streets, so that they still cross at right angles in the centre of the town, as at Gloucester and Chi-

chester. Yet at Lincoln, where one gate of the Roman city actually stands at this day and the sites of the others can still be found, only one street, 'and that erratically', follows the original line. And at Colchester, though the Roman walls remain and the positions of the gates are known, none of the present streets exactly coincides with the old. The same is true of York and Cirencester, where, as at London, the Roman ways are many feet below the level of the modern streets. Moreover the Roman plan invariably included the forum as its central and



FIG. 27 CHICHESTER

The area of the ancient Roman town of 'Regnum' is well defined by the city walls. Within the city the two main streets, 'East-West' and 'North-South', intersecting at right angles, show very clearly their Roman origin. Adapted from the Ordnance Survey Map, by permission of the Controller of H.M. Stationery Office

most marked feature ; that not a trace of its site can now be found above ground in any existing English city is proof enough of the complete obliteration of Roman arrangements. In southern Europe the market-place with the Hotel de Ville may occupy the site of the forum and basilica ; but in the north the market-place is a revival, not a survival ; and the church that usually dominates it attests the fact.

When, therefore, we find an example of formal town-planning in England we are obliged to attribute its lay-out to a period later than the Saxon conquest, even though it be on a Roman site.

Most of our towns show no signs of formal planning : they began as tiny hamlets founded by the barbarian invaders in the sixth and seventh centuries ; and they have grown haphazard along the high roads without premeditation and without organized plan. The Saxons were an agricultural people with tribal customs ; ' Harling abode by Harling and Billing by Billing ', each family cultivating its own lands and jealous of its neighbour. They had therefore no use for the Roman cities with their closely packed houses ; they avoided them and dotted the land with isolated homesteads.

There is fascination in the effort to put oneself in the place of these early settlers, to see the features of the countryside with their eyes, and to discover the factors that decided them to choose a particular site for their village. In this exercise the English place-names will be found full of suggestion, for most of them preserve for us both the name of the tribal chief and the geographical feature that gave origin and name to the village.

Thus at Abingdon, which most of its inhabitants still rightly call Abbandon in spite of the schoolmaster, we may stand on the ' dun ' or hill overhanging the town and wonder what manner of man was that Saxon Abba who lent his name to it ; we may note that there are still water hens in the ' rith ' or brook at Hendred—henna-rith, descendants of those that swam there when the first English came ; most of our Draytons are still ' dræg ', isolated by streams or marshes ; and though our Chelseys, Binseys, and Witneys are now drained and dry (except in flood time) they are still low-lying places not far from water, as they were when Ceol or Byni or Witta first settled on the stream-protected site.

The predominance of references to water, the innumerable

place-names containing well or brook or bourne or rey or ford or ey<sup>1</sup>, may remind us that a water-supply was the first consideration in determining the site of a village. So in our chalk country, as in the Cotswolds and the Pennines, the older villages are found not upon the ridge where the high road runs, but along the line where springs break out of the hillside at the junction of the permeable and impervious strata. There the water flows still for us as for our fathers whom it invited to live by it. For

Very old are the brooks,  
And the rills that rise  
Where snow sleeps cold beneath  
The azure skies  
Sing such a history  
Of come and gone—  
Their every drop is as wise  
As Solomon.<sup>2</sup>

Still, too, in the chalk lands one finds Brightwells with clear water running down the village street, as in the midland clays, 'that are sodden and unkind', there are Fulwels and Fulbrooks (foul brooks) with muddy and dark streams. All through the Middle Ages men went to the water instead of making the water come to them as the ancients had done and the moderns do.

In mediaeval England only the monasteries had preserved the recollection of earlier amenities; the monks often diverted a stream to bring it through their abbey to supply them with water, to turn their mill, and to carry away the drainage of the monastery; but the towns depended almost entirely upon the primitive supply from springs, wells, and streams until the middle of the sixteenth century,<sup>3</sup> and even then, in the few cities that laid down water mains of hollow elm trees, the supply was not brought into the houses but had to be fetched from hydrants in the streets.<sup>4</sup> Sewers there were none, any more than there are to-day in most of our villages. Indeed there are still scores of hamlets in England which depend for their water on the rain that falls on their roofs; and in one village within six miles of Oxford the vicarage alone has a well; the farm-houses have rain-water tanks,

<sup>1</sup> Rey, from rith, a streamlet. Ey, land insulated or peninsulated by water.

<sup>2</sup> Walter De la Mare.

<sup>3</sup> Yet as early as 1440 that visionary saint Henry VI had planned and pro-

vided for Eton not merely a water-supply but an elaborate system of sewers and flushing.

<sup>4</sup> By carriers like Cob in *Every Man in His Humour*.



and the cottagers, like their primitive ancestors, dip up their supplies from the river.

Although the Romans had bridged some of our streams to carry their roads—the piers of one of their bridges may yet be seen in the bed of the Tyne at Chollerford—most river-crossings were by fords until after the Norman Conquest. Yet, as one of the specified duties of the King's thane was to keep the bridges in repair, there must have been some Saxon bridges, probably of timber. Many mediaeval bridges remain, though they have usually been widened and repaired beyond all recognition, *except from below*; one of the best hints for the wayfarer on our English roads is that he should always look *under* any stone bridge he passes over. He will find that, though the fact is not evident from the roadway, many bridges are double: one half will be carried upon ribbed and pointed arches of Gothic construction, the other upon round arches with projecting keystones added in the coaching days of the eighteenth century. The difference is often shown also in the parapets, one of which may have a chamfered coping and recesses into which foot-passengers could retreat, the other may have a wider, curved coping oversailing its base, with no recesses. So it will repay to look under a bridge that has two differing parapets. Abingdon bridge, first built in 1416 and widened about 1800, is a good example of this composite structure. The bridge over the Thame at Chiselhampton, which Rupert fought Chalgrove Field to secure, and over which he passed on his retreat, still exists unaltered but hidden by a hideous iron platform laid alongside it in the Victorian age.

Other bridges that can be appreciated only from beneath are those which carry our roads over the eighteenth-century canals. Their brickwork is severely plain, but their use of the elliptical arch is worthy of note and admiration; for this form, being low in the crown and high in the flanks, gave ample head-clearance above the towing-path, where it was most needed, and obviated the sharp rise in the road made necessary by the older forms.

Other geographical features are suggested by 'don' or 'down', a hill; 'or', as in Cumnor, a bank; 'mere' or 'more', a lake; and 'combe', a valley. Some place-names preserve historical vestiges that were old when they were new; cester, caster, and chester, for example, were often used by the English to describe settlements near abandoned Roman sites; and

Fawley, in Oxfordshire, means 'the coloured floor', the village near the tessellated pavement that was all that remained of a Roman villa. The many place-names formed from 'strat', meaning the street or paved road, serve to remind us of the efficient system of Roman communications throughout Britain which must have facilitated the Saxon invasion and conquest. These Strattons, Streatleys, and Strethams are seldom on the road itself, which may run for miles without a sign of human habitation, like that twenty miles of Erming Street north of Lincoln; they usually lie just off it and at a lower level. For the Roman roads, for obvious military reasons, took where possible the high line of a ridge, and the Saxon settlements were placed lower down at the springs. The hamlets now found on them suggest by their large inns with extensive stables that they sprang up when the coaches and post-chaises revived the ancient life of the Roman highways.

Geology also dictated the names of some of our villages: Claydons are found on clay soils; Chalgraves usually on the chalk. Vegetable productions suggested other names—trees, the oak, beech, ash, and box; grass, as in Garsington, 'the grassy hill'; corn, as in the many Bartons and Berricks that are named from barley; and even cress, which was observed by the founders of Cassington (Cersetone) and Carswell to flourish in the brook where they built their village.

When the limits of parishes came to be defined their shapes too were determined by geographical factors. Thus, as Mr. Belloc shows, most of the settlements within reach of the Thames 'thrust out a tongue of land which ends in a sort of wharfage on the river' so as to preserve their communication with that immemorial highway; and all the parishes in the chalk lands are long and narrow strips running down the hillsides into the valleys, the reason being that each settlement may have a share of the different soils suitable for arable, pasture, and woodland.

Attempts have been made to distinguish two types of English villages, the compact or 'nucleated' and the scattered; it is said that in the eastern counties the first type predominates, while in the west the typical village is a collection of separate hamlets. The theory is that the compact village represents a purely Saxon settlement in a district where the native population was completely exterminated, while the scattered plan is of later date, when Christianity was influencing the invaders, who

then allowed the conquered British to remain in their neighbourhood in hamlets adjoining their own. Another explanation is that the scattered hamlets represent groups of cottages built for herdsmen and shepherds in new clearings made in the woodlands of the manor ; it is said that the names of most of these group-villages usually contain elements like *hurst*, *leigh*, and *field*, all of which mean a clearing in a wood, and that many of them are of post-Conquest foundation, due to the activities of the Norman lords in developing their new estates.

The first theory is to-day of special interest ; for the bitterness of the war set many of us seeking for arguments in support of Grant Allen's belief that we are not in the main a Teutonic people, that the British, and, as Mr. Hutton and Sir H. Mackinder believe, the Neolithic, elements in the race still largely predominate. It is certain that the invaders adopted from the conquered the British names for most of our rivers and mountains, which implies some intercourse between the two races, and is thus an argument in favour of the view that they settled down together. It would be an interesting inquiry to investigate whether the existing population in villages of the scattered type exhibit more ethnological variety than the inhabitants of nucleated villages.

The problem, however, is complicated by later developments in villages once of the nucleated type. Thus when Yarnton, a village in Oxfordshire, was divided, in the eighteenth century, among the four co-heiresses of Sir Thomas Spencer, the change of ownership, followed by the building of new manor houses and farms, ' converted a compact village, situated near the church, into a place with a wide circuit of houses, straggling at great distances from each other without order or connexion '. Similar changes at various dates must have completely obscured the original plans of great numbers of our villages. For example, an Act of 1589 ordered that no cottage should be built with less than four acres of ground ; to avoid this encroachment on their pasture-land the sheep-farming landlords took advantage of a saving clause which allowed cottages *for paupers* to be built on the waste at the roadside. This explains the long, narrow cottage-holdings on the highways outside many villages.

Bygrave, near Baldock in Hertfordshire, is a rare example of a primitive planning that has survived almost unaltered through thirteen centuries, to afford us to-day a type of the self-contained Anglo-Saxon settlement. It lies, on commanding ground, just



off the Romanized Icknield Way which formed the southern limits of its lands, and an equal distance east of another Roman highway, in deliberate isolation. Its handful of houses are grouped on either side of its single short street, having the church and the park gates at one end. North of it is the enclosed demesne of its lord; south of it some small enclosed pastures. And all around, 'clean of officious fence or hedge', stretch the open 'fields' of Saxon times, crossed by cart-tracks leading, one to the lord's mill on the Ivel, others to the two great roads which connect it nowadays with the outer world. Clothall and Wallington in the same county have similarly preserved their original lay-out almost unaltered.

Some of the early English settlements have thus altered little in arrangement from the sixth century to this: the manor house stands where the chief's 'hall' of timber was first raised, the tiny church closely adjoins it—for what are now our earliest parish churches were originally private chapels built by the lords of manors—and

near by are groups of cottages but little larger or more numerous than the huts of the early settlers and their British serfs; others have utterly and inexplicably vanished, deserted perhaps during war or pestilence or the Tudor enclosures and never re-inhabited. Round Oxford may be found a dozen such 'deserted villages' where

No sign of habitation meets the eye,  
 Only some ancient furrows I discern  
 And verdant mounds, and from them sadly learn  
 That hereabouts men used to live and die;

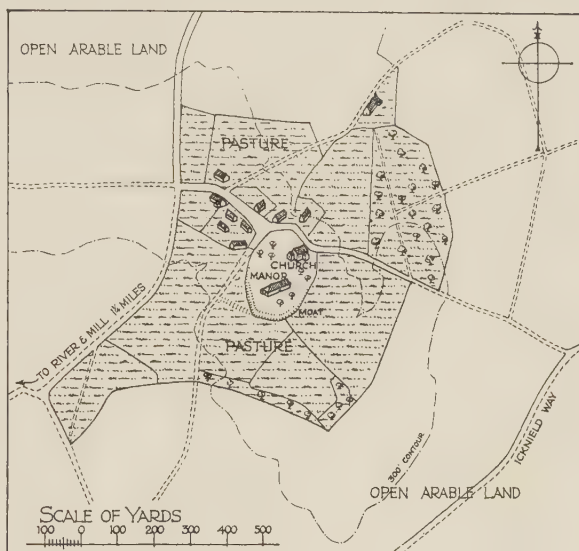


FIG. 28 BYGRAVE, near BALDOCK

An example of a Saxon village. The site is on elevated ground off the main roads, with the lord's residence and church at the highest point. Immediately surrounding the lord's residence is the village with its enclosed pasture land; beyond this is the open arable land of the parish. The river (with mill) is  $1\frac{1}{4}$  miles away to the west, and to the north-east, some 800 yards away, runs a stream. Based on the Ordnance Survey Map, by permission of the Controller of H.M. Stationery Office

and sometimes the rabbits scratch up their bones in making their burrows. Some villages have changed their position and left church and manor house solitary a mile or more away, perhaps like Iffley attracted towards a new high road, or like Nuneham moved bodily by the whim of the squire, or rebuilt like Combe on a higher, healthier site; many, like Cholsey in Berkshire, have moved gradually and for no discoverable reason. The people of Cublington near Aylesbury, about 1400, built themselves a new village a quarter of a mile east of their old site where the plan of the original settlement and part of its enclosing bank can still be traced in the fields. The new village, as its existing roads attest, was planned as a rectangle or small 'gridiron'. A brass in the chancel to John Dervyle 1410 refers to him as 'pmi rectoris isti' ecclie', i.e. of the church now existing. Until the Conquest the old borough of Berkhamstead stood near the church of what is now called Northchurch; when the Norman castle was built it attracted the inhabitants to move towards it.

But other settlements, from the circumstances of their position, could not so remain isolated; if they stood near a river crossing, or at its limit of navigation, or at the junction of two rivers or roads, or near a salt spring or a quarry of millstone grit or iron workings,<sup>1</sup> there would be a constant coming and going of traffic that would have its effect alike on the settlers and the settlement. The place would begin to grow, inns and new houses would be built, immigrants from other settlements would be attracted. This would mean money for the lord in rents and tolls; if he were sharp-sighted enough to build a bridge at his ford, or to beg or buy the grant of a market from the king of his district, his wealth and power would grow with his hamlet; and if he used them to build a monastery on his land he would do himself good in this world as well as in the next, through the pilgrims and travellers attracted to the place—it is to be remembered that the religious houses were the only sources of Christian rites and sacraments until the organization of parishes was developed in the two centuries that preceded and followed the Norman Conquest; they were thus places of constant resort.

<sup>1</sup> Early trade was concerned mainly with these three essential commodities, except for which the village community was practically self-supporting. Many

ancient tracks are still called Saltways, one of which can be traced, mainly as a grassy road, from Droitwich to Bourton on the Water. Cf. *Via Salaria*.





FIG. 29 RADNOR

From Speed's *Theatre of the Empire of Great Britain*, 1611



FIG. 30 NORWICH

The plan of this city shows vestiges of the mediaeval streets which circled round the protecting walls of the castle



FIG. 31 SHREWSBURY

An example of the selection of a strategic position (at a loop in the river) for the site of a town. The map also clearly shows how the direction of the main streets and the growth of the town have been influenced by the nature of the site

FIGS. 30 and 31 adapted from the Ordnance Survey Maps, by permission of the Controller of H.M. Stationery Office



At Abingdon, for example, when Domesday Book was compiled there were in addition to the usual agricultural population 'ten traders dwelling in front of the door of the church', i.e. where the market-place now is, and paying 40*d.* rent to the abbey.

So hamlet grew to village and village into town. But the growth was slow and undesigned. If an important thoroughfare ran through it the village would extend longitudinally, straggling along the road, so becoming Long Stratton; if the lord or the abbot had a weekly market, houses would cluster round the open area before the gate of the manor or the monastery. So

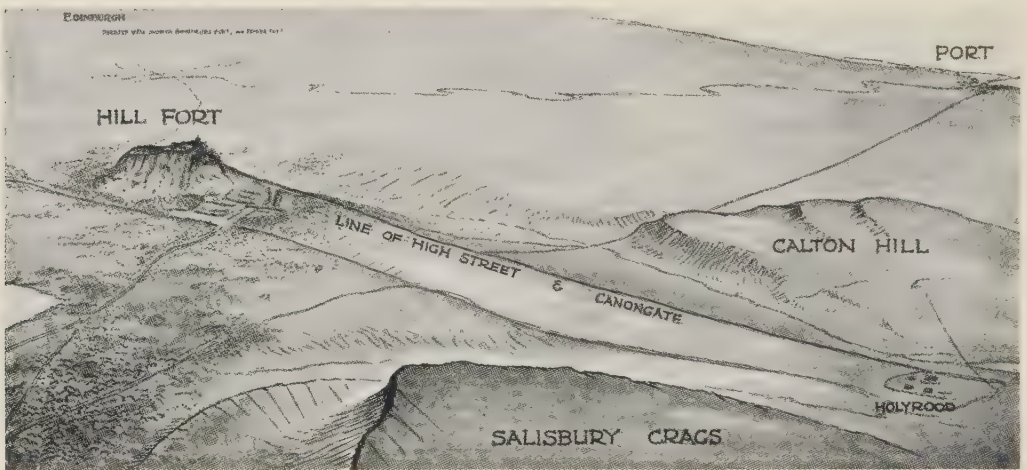


FIG. 32 EDINBURGH

View showing the primitive Hill Fort. Note the influence of topography in the selection of the original site and in the development of the later town

after the Conquest, when castles were built at defensible or strategic points, settlers, attracted by the protection they afforded, would seek to build round the circuit of the castle, acknowledging, in return, suit and service to its lord. Chepstow, Windsor, Radnor, Ludlow, and Bridgnorth are examples of towns which thus grew up under the shelter of a Norman castle, and the same influence may be seen in the plan of Norwich, where 'the principal streets wind round the castle, following the line of the moat, which may still be traced, though built over'. In Shrewsbury we see an example of a site chosen for its strategic value, and the loop in the river has determined the lines of its plan. Edinburgh and Durham are both notable examples of the selection of commanding sites. Even in Saxon times the 'burhs'

or fortified settlements had tended to grow into 'towns', but in the modern sense of the word there were very few towns in England before the Conquest. The term bore no relation to the size of a place; it meant simply any settlement enclosed by a fence or ditch and so protected from wolves or robbers; 'ham' in many place-names has the same meaning, preserved to-day in the phrase 'to hem in'. The line of the stockade seems usually to have been roughly triangular; it contained little or no garden ground, the houses backing closely on to the fence with their crofts or gardens outside it, and their fronts facing on to a central green; but there was sometimes a backyard to the houses where young stock could be kept and tended. All round the settlement lay the unfenced common fields in which each freeman of the village had his allotted strips of arable land, the enclosed pastures and the water-meadows that were fenced off at hay time, and beyond was the woodland and 'waste' of the manor, the uncleared ground whence the villagers drew their wood for fuel and fencing, and where the half-wild pigs in charge of the communal swineherd fed on acorns, beechnuts, and roots.

Many of our villages preserve traces of these primitive arrangements in their triangular greens surrounded by closely-packed tenements which still have so little garden ground adjacent that the cottagers depend for their vegetables upon allotments in what was once the open field; the small enclosures, crofts, and orchards behind the houses represent the gardens and closes that followed the line of the early stockade; and beyond them are the larger ploughlands and pastures carved out of the common field. Even in the towns some trace of the original plan often remains in the open central area that was once the green and is now the Market Place; for though it may be called the Square it is frequently triangular in shape.

In some towns, however, the triangular market-place seems to have been made by widening one end of the street that formed the main thoroughfare of a village. Thus it is recorded that Abbot Wusin of St. Albans about 950 widened the road in front of the Abbey, divided it into frontages, and gave timber and material to those who undertook to build on the allotment granted them. Behind each frontage a long narrow strip of garden ground, 'a backside', ran to the town boundary, a ditch known as Tonman's Dyke; so that here, at least, gardens were included within the defences of the place.

In the market-place goods were sold, as they still are at country fairs and, on Saturdays, in some London streets, at stalls in the open air. But the stalls became permanent structures and, eventually, shops; which explains the presence of long, thin, groups of buildings in the market-places of many country towns with, usually, a broad open space on one side of them and a narrow thoroughfare on the other;<sup>1</sup> the Lucken Booths of old Edinburgh are a famous example. The most prominent of these buildings was the tolbooth where the lord's dues or market tolls



FIG. 33 ASTBURY, CHESHIRE  
The triangular village green

were collected and his Court of Pie Powder<sup>2</sup> was held to settle disputed bargains. It was at first only a wooden shed, a booth, raised upon tall posts so as to offer less obstruction to the traffic of the market.

In the later Middle Ages market crosses were often built by local benefactors to shelter the traders and their goods and customers; the tall old cross on its 'calvary' of steps that stood on every village green from the time of the English conversion was replaced by an open shelter supported by pillars and

<sup>1</sup> Cf. map of Ludlow, p. 54.

<sup>2</sup> i.e. 'pieds poudrés', because the parties came in dusty footed from their argument in the street.



surmounted with a cross and vane. From this and from the tolbooth developed the sixteenth-century town hall, built upon columns so that the area of the market-place should not be further encroached upon and that shelter might be available in bad weather. The motorist who has suddenly to slow down where the approach to some little country town makes a right-angled turn and immediately afterwards has to stop altogether because he finds himself in the market-place with half a dozen alternative outlets (e.g. at Aylesbury) may reflect, as he gratifies the constable on duty near the town hall, that this too-familiar problem of modern traffic results from a deliberate design to bring all traffic past the receipt of custom.

As the population increased there was not space enough in the market square for all the traders to set up stalls, and some of them migrated to adjacent streets, each trade having its own quarter; thus we have our Fish Streets, Butcher Rows, Leather Lanes, and other streets named after the goods sold in them—except where modern snobbery has turned, for instance, in Oxford, the Butcher Row into the aristocratic Queen Street, or Fish Street into the more euphonious Saint Aldates.

The central area was also the recreation ground of the community, where football was played and the quintain set up on holidays. Here, too, bulls were baited and cocks were stoned. The bull was tied to a stake in the middle of the open space,



FIG. 34 ASHBOURNE, DERBY  
View of the village in the early seventeenth  
century. From an old manuscript

and dogs, bred for the sport, were sent to the attack in twos and threes. The cock also was fastened to a post and pelted with sticks and stones. At Wallingford, a circular area in the centre of the market-place is still known as the bull-ring; the lamp-post in the middle replaces the stake to which the baited bull was tied.<sup>1</sup> Some greens still have their stocks and whipping-post, their pound for errant cattle and their 'cage' or lock-up for erring.

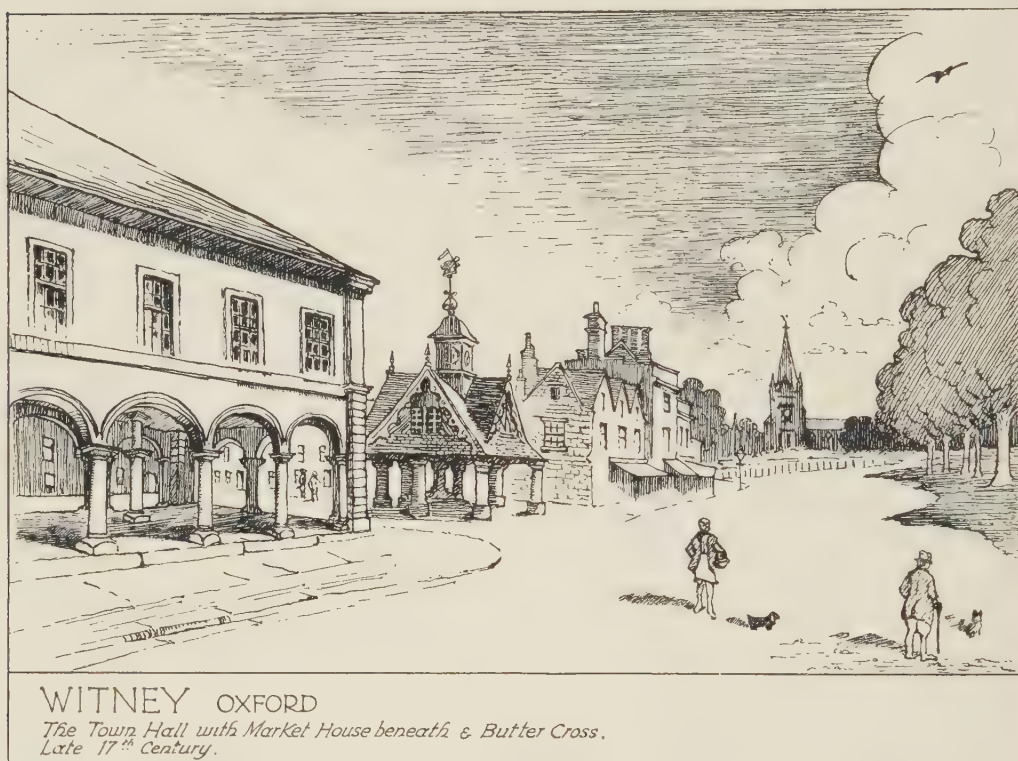


FIG. 35

men, but the teaching of conventional 'history' by destroying the local traditions has weakened regard for such vestiges, many of which have been wantonly destroyed, while others have been removed to the local church, town hall, or museum.

Towns upon river banks sometimes show two market-places, one on either side of the stream. These double towns arose from the desire to control the crossing and the navigation; when a bridge was built by the dwellers in the original settlement they naturally wished to safeguard the farther end of it, and

<sup>1</sup> And has now, September 1921, been replaced by the War Memorial.

therefore established a suburb on the other bank, which often came to have a market of its own. Many of these double towns are situated along the line of the Danelagh and form part of Edward the Elder's scheme for the defence of southern England. His plan was derived from France, where Charles the Bald in 862 had gained control of the navigable rivers by placing garrisons on either bank.

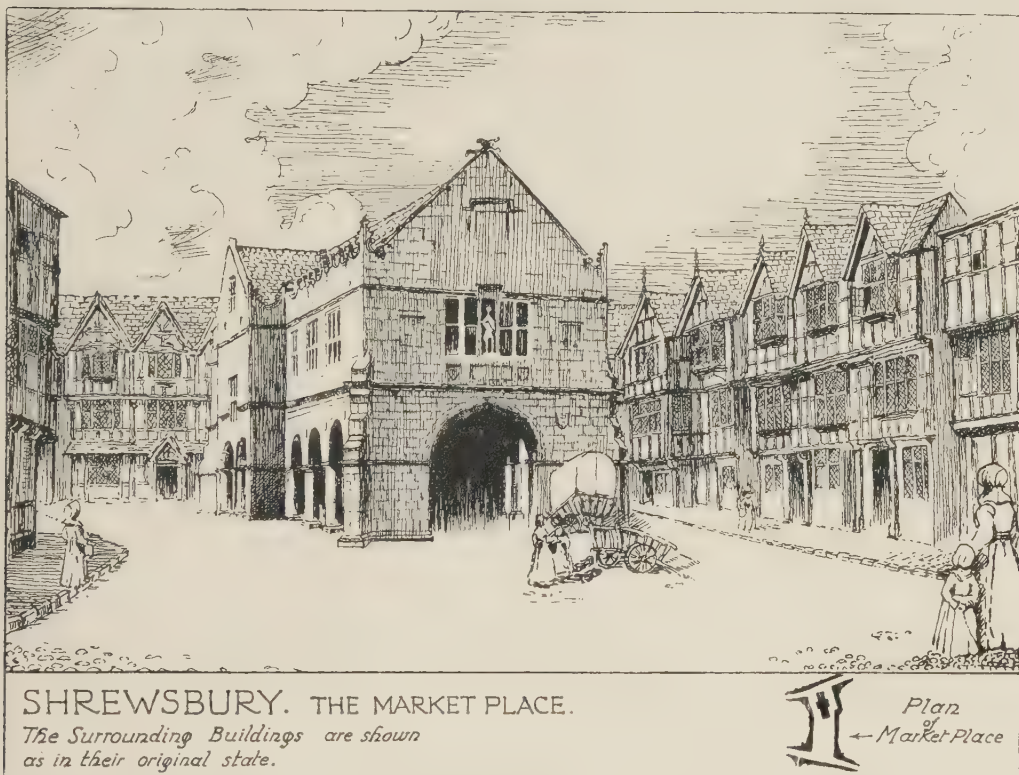


FIG. 36

The Anglo-Saxon Chronicle records that 'in this year (913), about Martinmas, King Edward commanded the northern fortress to be built at Hertford between the Memer, the Benewic, and the Lea'; that in 918 he 'went with his forces to Buckingham and . . . erected both the forts on either side of the river'; that in the next year he went to Bedford and 'commanded the town to be built on the south side of the river before he went thence'; that in 922 at Stamford he similarly 'commanded the town to be built on the south side of the river: and all the people which



owed obedience to the northern town submitted to him'; and that at Nottingham in 924 he built a town on the south side of the Trent 'over against the other and the bridge between the two towns'.

The lay-out of Buckingham, which is of all these places least altered by later growth, suggests that he adopted Wusin's plan, and widened the southern end of the road to form a triangular market-place, dividing it into narrow frontages with deep oblong allotments behind them. His work upon the other bank seems to have been only a bridgehead which did not develop into a second town. At Hertford and Stamford, on the other hand, where towns already existed on one side of the river, his foundations were clearly large and permanent settlements.

The duplication of market-places at Lynn is a rare example of post-Conquest date. The earlier was laid out by Herbert Losinga, the first Norman Bishop of Norwich<sup>1</sup>; the later is part of the plan of William Turbus, third bishop, 1146-75, for his 'new londe' reclaimed from the marshes beyond the northern limits of the original town, 'in fundo nostro de Lynno in nova terra nostra quam de novo providimus habitandam'.

The Danish settlements of the ninth and tenth centuries have left their traces on the English physiognomy and on the English place-names, but not, so far as can be ascertained, upon the English soil. Their 'bys' and 'thorps' are too numerous to be all new foundations, and indeed many of them are known to be English villages renamed by the invaders, who appear to have brought no new plan into England by which their settlements can be distinguished. Yet it is possible that some of our English hedgerows, now so characteristic of our land, are far older than the Tudor and Georgian enclosures, and are due to the Danes, who, refusing to adopt the 'common field' system, cultivated each his own holding and fenced it off from his neighbour's. It must also be observed that Edward the Elder's plan of establishing permanent garrisons to control the Danelagh caused many English villages to develop into burhs or towns, and that some towns were actually built *de novo* in his reign.

For example, we learn from the Chronicle that in 920 he built and fortified Maldon; in the next year he 'commanded the town at Wigmore to be built', and built also the town at Gladmouth. We shall see later on that there are strong grounds for

<sup>1</sup> He removed the see from Thetford, 1091.

the opinion that Oxford is an example of a planned city of pre-Conquest date ; and as it is first mentioned in the Chronicle under Edward's reign, it, too, may possibly have been laid out by him or his sister, Ethelfleda, as a river fortress, though there is no direct evidence yet discovered.

Southampton is a parallel instance where the evidence is similarly circumstantial. Leland calls it New Hampton and relates the tradition that Old Hampton, the site of which 'berith now good corn and grasse', was 'brent in tyme of warre, spoyled and rased' so that 'the inhabitantes there translatid themself to a more commodius place and began with the Kinges licens and help to builde Newhampton' a quarter of a mile to the south-west of St. Mary's Church, 'wher constant fame is that the old paroche chirch of Old Hampton stooode'. Recent excavation of this site has confirmed the tradition by unearthing coins of the Saxon kings. Southampton is therefore a planned town laid out and occupied as a whole. But since the records of the new settlement go back to the eleventh century it seems clear that the king who helped was a Saxon. It has been suggested that he was Canute ; and as his father had occupied Old Hampton as winter quarters for his Danish host in 994, and probably left it uninhabitable, this may have been a part of Canute's well-known policy of conciliation.<sup>1</sup>

Place-names and records show that some of our market towns owe their foundation to the Normans in the century following the Conquest ; Barnet, originally La Bernette, and Belvoir are obviously French and so of post-Conquest origin. Battle's long, wide street was laid out in front of the gateway of the abbey founded by the Conqueror ; but most of these Norman settlements grew up under the shelter of some newly-founded military fortress. Ludlow is perhaps the clearest example and certainly the most interesting in its plan.

Until the building of the castle by Roger de Lacy (1085-95) the site seems to have been unoccupied. Early in the twelfth century the town was laid out on a plan then new to England. Except its rectangular principles it owes nothing to ancient models : it is as native as the contemporary Anglo-Norman architecture. There is no central crossing or carfax, no central market-place, and its divisions are markedly oblong instead of square as in Roman planning. A long, wide street, now represented by

<sup>1</sup> 'He built churches in all the places where he had fought.'

High Street and King Street, running eastward from the castle, formed its backbone ; a short distance southward a second street, on the line of Bell Lane and Brand Lane, was laid out parallel to it ; and so the area proposed for the town was divided, not in Roman fashion into quarters, but longitudinally into three parts. Subdivision was similarly effected by laying out two wide straight parallel streets, Mill Street and Broad Street, from north to south.

Thus the town was divided by its main roads into nine rectangular areas ; these again were intersected by numerous smaller streets at right angles to the larger ; and parallel to them was

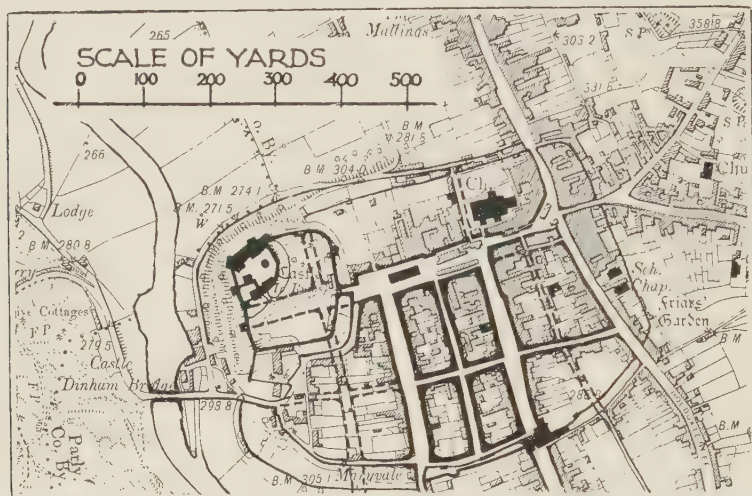


FIG. 37 LUDLOW

Plan showing the lay-out of the town in front of the castle. The solid lines show original streets which still exist and the broken lines part of the original lay-out which has since been built over. Adapted from the Ordnance Survey Map, by permission of the Controller of H.M. Stationery Office

a series of narrow lanes dividing each area into building blocks of uniform size and shape, each plot having a street frontage on one of its sides and access from a lane on another.

Of this ingenious and convenient plan the main lines still remain, while sufficient evidence for the rest was recovered by Sir William St. John Hope, upon whose map showing the probable original lay-out our illustration is based. It will be observed that an extension of the outer bailey of the castle cut a cantle out of the north-west corner, and that monastic buildings have obliterated the original lines of the northern area. The blocks of houses east of the High Street suggest the manner in which the earlier streets were encroached upon and narrowed or even



obliterated in the later Middle Ages. But there can be no doubt that the obvious advantages of the original plan led to its being taken as a model by other English town-planners, particularly in the early thirteenth century.

The lines of many of our city walls were also drawn by Norman lords, and though the walls may be gone the street-plan will show traces of their existence. A central market-place, for example, had its military no less than its commercial importance as a muster ground for the defence ; the four streets radiating from it, even in post-Roman cities, were designed to communicate readily with the walls ; and every walled town had one purely military road, the pomerium (*pone muros*, still called in Southampton Back o' the Walls), running continuously round the city on the inner side of its walls to give access to their bastions, flanking towers, and the steps that led to the rampart walk. This, having no civil importance, has now often been built upon, as at York ; but it remains almost entire at Carnarvon, except on the west side of the town ; it is clearly traceable at Bristol in a series of curved lanes following the line of the vanished walls ; it marks where the east wall of Northampton stood ; and at Newcastle it runs along the north-west side where the walls and turrets, repaired in 1386, still stand, and it can be traced in a paved lane on the west where the walls themselves are gone.

But the first great town-planning movement came into England with the Plantagenets.

The largest schemes that England has yet seen for laying out new settlements or for rebuilding old towns on new lines were carried out in the short-lived Renaissance of the thirteenth century. For most of them Edward I was responsible ; but the conditions—of stable government and security—which made them possible, and the far-seeing policy which produced them, were inherited, like his genius, from his great ancestor who founded his line in England.

Posterity has wondered so much at Henry the Second's energy in love affairs that it has failed to realize the equally passionate intensity of his innumerable other activities. The following record from the Hundred Rolls of 1279 is thus of great interest in revealing Henry as the parent of English town-planning, and in showing how imperfectly his greatness was appreciated even in the thirteenth century. The jurors of the Hundred Court ' say by their oath that in the time of Henry

le Veyl, King of England, the vill of Wodestok was first founded in such manner as this: at the same time the lord the king often resided in his Manor of Wodestok for the love of a certain woman named Rosamund; and at the same time there was a certain void plot without the Park of the same manor, and because the men of the king were lodged too far from his manor aforesaid,<sup>1</sup> the same lord the king . . . gave and granted divers portions of land of the demesne, being void plots, to divers men for the purpose of building lodging houses therein for the use of the men of the same king; and appointed therein, with the common consent of his nobles, divers rents underwritten; and gave to the men therein a market to be held on the Tuesday in each week, of which the market bailiff shall collect the toll and shall answer therefore yearly to the Exchequer.'

The borough of New Woodstock so laid out formed an almost exact square the sides of which were two furlongs in length. Within this square there are still evidences of a rectangular street system overlaid diagonally by later building lines. We shall see later on that in this foundation the 'divers rents' of the burgages, or plots let out for building, and the revenue from the market tolls were much more in the mind that invented scutage than any love for Fair Rosamund Clifford.

The importance of the new financial policy was soon appreciated by Henry's successors. John, for example, even before he came to the throne, founded Liverpool as a port that should attract the new Irish trade to the lands between Ribble and Mersey, of which he was lord. Here, however, all traces of the original lay-out, whatever it may have been, are obscured by the great subsequent developments of the site; but we know that the site was laid out in burgage tenements, let at a money rental and free from villein services.

John among the prophets of town-planning will surprise the readers of conventional history. It is still more surprising to find his knight-errant brother, Richard, deeply engaged both by example and precept in the same peaceful enterprise. Yet Richard I founded and laid out Portsmouth himself and encouraged his barons in several similar undertakings.<sup>2</sup>

<sup>1</sup> i.e. at the village of Old Woodstock.

<sup>2</sup> 'Turatores dicunt quod quando placuit Domino Regi Ricardo edificare villam de Portsmue ipse commisit placeas eiusdem

ville pluribus hominibus et placeam illam commisit Gervasio de Suthamtonia edificandum.'

He had sailed into Portsmouth harbour in 1189 to take possession of his realm, but the site was then occupied only by the huts of villeins of neighbouring manors—Buckland, Copnor, and Fratton. The value of such a harbour seems to have struck him, and as the approach to Portchester became silted up he determined to provide a new port. He therefore instructed his sheriff Gervase of Southampton to lay out a site with building-blocks, and to allot them to any applicants who were prepared to build upon the 'placeae' or 'burgages' so granted them. He



FIG. 38 PLAN OF PORTSMOUTH *c.* 1545. From Cott. MS. Aug. I. ii. 15

himself set the example by ordering a house to be built for his own use on the spot still called Kingshall Green; the Pipe Rolls show that by 1197 £2 18s. 3d. had been spent upon the King's house, and that 4s. had been received in rents from the building sites.

To encourage immigration into his new town he issued a charter in 1194 granting to all holders of burgages and owners of houses exemption from pleas of the shire and hundred, the right to bring all questions touching their holdings to the King's Court, and powers of criminal jurisdiction, 'infangtheof and outfangtheof', within their boundaries. This independence of



the court-baron of a feudal overlord was a dearly prized right of a few privileged towns of which Winchester was the type; the 'Freedom of Winchester' now granted to Portsmouth must have rapidly filled up its available burgages, for very early in the next century we find many deeds of conveyance relating to the houses that had been built. Some of the holdings had already been divided, which proves that the site was completely built upon and fully inhabited.

Richard's charter had granted a weekly market and a fair lasting from the 1st to 15th August, and the importance of the place is soon seen in the arrival of traders from Normandy and Holland bringing baskets and delftware respectively. By 1256 a gild-merchant had been established; Parliament met in the town in 1254; and henceforward Portsmouth became the usual rendezvous for the forces summoned to attend the sovereign on expeditions across the Channel.

This caused the place to be often attacked by the French, who landed and burnt it in 1338—when only the church and the *Domus Dei*, founded by Peter des Roches, escaped the flames—and again in 1369 and 1377. Yet through all its rebuilding Portsmouth preserves in its street plan the chessboard lines of the rectangular building sites into which its area was divided in the days of its founder; in one of them, originally the market-place, the parish church still stands with the market house adjacent, the successor of the 'town house' that, as Leland noted, 'one Carpenter a riche man made of late tyme in the mydle of the high streate of the town'.

A conventional notion is that in feudal England every tenant rendered services instead of paying rent. A very little study of feudal town-planning will show on the contrary that the chief motive in laying out new sites in building blocks was, then as now, the desire to increase the rental of agricultural land by developing it as building sites. Even before the Conquest we saw the Abbot of St. Albans increasing his revenues by laying out a whole town on land that had paid nothing but the agricultural dues of a few villeins. This encouragement of free tenants now became a very important part of Plantagenet policy. Richard's barons, and particularly the religious orders, were quick to realize the profit in it,<sup>1</sup> and to follow his Portsmouth example by similar

<sup>1</sup> The evidence of a great increase in activity of the late twelfth century, wealth indicated by the architectural sometimes called the Transition period,

developments of their own estates. Thus the Templars who owned land in the parish of Weston, in Hertfordshire, laid out a town on the site in the last years of the twelfth century and named it Baudac, the mediaeval name for Baghdad, in token of their Eastern interests. They obtained from Richard a charter offering privileges of self-government and a free market to those

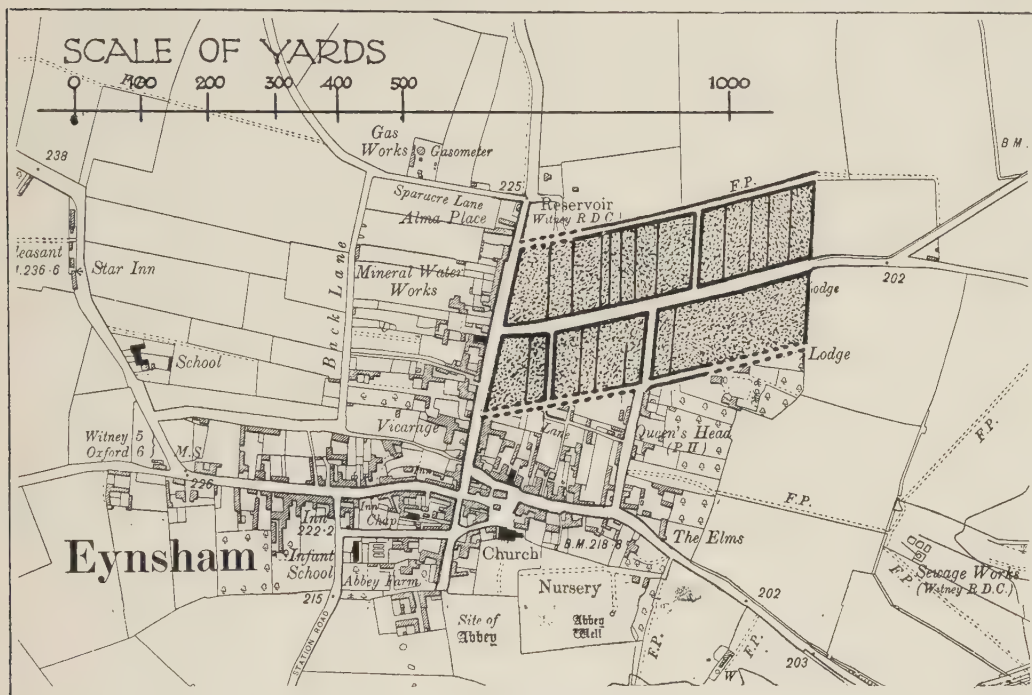


FIG. 39 EYNSHAM

The 'New Borough' laid out by Abbot Adam is shown to the north-east. The roads which still exist are shown in firm lines—those which have become obliterated are shown dotted. The lines of many of the original plots can still be traced. Adapted from the Ordnance Survey Map, by permission of the Controller of H.M. Stationery Office

who would settle as tenants and build on its burgages; and so in a few years the new town known now as Baldock came into being.

A little later the Abbot of Eynsham, in Oxfordshire, laid out a part of the demesne land of his village in 'placeae' or building sites and let them at a rental of 4s. an acre, his feudal revenue

which produced so many new monasteries and churches, and enlarged or rebuilt even more, has often been noted but never satisfactorily explained. It may be suggested that the increased

prosperity of the nation may have been due to the rise in productive power which was stimulated by the multiplication of free tenants, and the wider substitution of rent for service.

from it as agricultural land cultivated by villein service having been about 1s. an acre. To get his town built and inhabited he offered to all who would take up an allotment the privileges of a 'free borough', including the coveted rights of self-government and taxation through their own elected officials. So he got at once an increase of rent and freedom from the trouble and cost of collecting it.

The lay-out of Abbot Adam's 'New Borough' is clearly traceable in the northern outskirts of the village; its principal road, still called Newland Street, was driven eastward into the open 'field' for a length of two furlongs, and divided on either side into frontages of four or eight poles; behind each frontage an enclosure was made half a furlong deep, running back to a road made parallel with the main one, as at Ludlow in the previous century; shorter cross-streets at right angles divided the twenty-acre rectangle into blocks. Parts of the original roads are now only grassy tracks or footpaths, so that the plan is a little obscured. A glance at the Ordnance map, however, leaves no doubt that this quarter was regularly planned and laid out. But there are also indications to suggest that the older borough, nearer the site of the abbey, may similarly have been planned at some unknown period, perhaps even, like St. Albans, by a Saxon abbot. It has a square (as opposed to a triangular) market-place entered by four streets at its angles,<sup>1</sup> which is the usual mark of places that have been laid out on a prearranged plan. In the centre stands a cross contemporary with the abbot who designed Newland, and probably his gift; and near it is the later market house, on its arched undercroft, which has been disused so long that the modern villager is ignorant of its name and purpose.

Harrison in his account of cities and towns in England commends the religious communities 'for that they were authors of many goodly borowes and endwares near unto their dwellings'.<sup>2</sup> Unfortunately he gives no examples; but the plans of many, if not most, of the towns where great abbeys existed show signs of a formal lay-out in the streets adjacent to the monastic buildings. Domesday Book records of Bury St. Edmunds 'there are now

<sup>1</sup> One now leads only to the church-yard.

<sup>2</sup> Harrison's prejudice against monks leads him to suggest that they did this

only 'for enlarging their revenues', and 'especially where nunneries were far off or else no safe access unto them'.



342 dwellings on the demesne land of the Abbey which was arable in the time of King Edward', so that here again there was probably some town-planning in early Norman times. Leland has a note on Malmesbury which suggests that the town was laid out by the monks of the abbey; and it is possible that evidence might be found to show that Tewkesbury was formally planned.

When the examination of early charters is combined with that of the plans and sites of the towns to which they relate, it will almost certainly be found that there are many more examples of planned towns than was suspected. There is, for instance, a

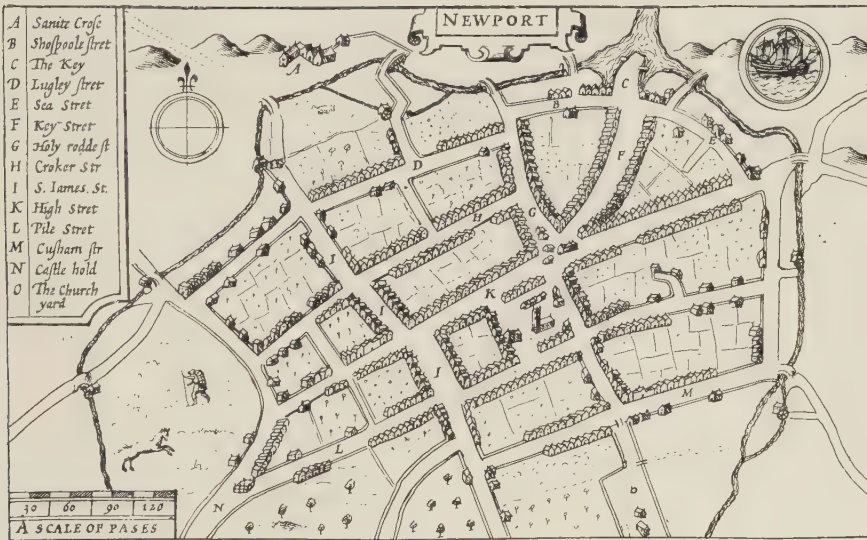


FIG. 40 NEWPORT From Speed's *Theatre of Great Britain*, 1611

charter granted as early as 1184 by Richard de Redvers to the 240 burgesses who had built upon the allotments of a site he had laid out on his lands in the Isle of Wight and called 'New Port'. Each plot or 'messuage' was to pay 12*d.* per annum, and the burgesses were to elect their own reeve and to be exempt from the jurisdiction of the Hundred Courts and from tolls throughout the island. By a thirteenth-century charter of Richard's eventual heir, Isabella de Fortibus, the burgesses became freeholders of their plots on agreeing to pay 18 marks of silver per annum levied on the town and collected by its own officials. Modern building has somewhat disguised the original lay-out; but an existing map of *c.* 1600 suggests not only that the twelfth-century plan—six main streets crossing at right angles with three open

squares for markets and churches—then survived, but that it survives still, although two of the squares have since been filled with houses. For, though the French burnt the town in 1377 so completely that the site was deserted for two years, no fire can destroy the foundations that mark the lay-out of streets.

An interesting example of this fact, of a town-plan surviving when the town itself has vanished, is Francheville, no longer a local habitation but a name—and that almost forgotten. In 1255, as his charter proves, Aymer de Valence, the very unpriestly Bishop-elect of Winchester, laid out a site on his manor of Swainston in the Isle of Wight and called the town built upon its burgages 'Franchiseville', in token of the freedom of government granted by his charter to the settlers who built it. Destroyed in the French raid of 1377 it was afterwards rebuilt and renamed in English 'New Town'. The removal of the staple from Winchester to Calais, the Tudor enclosures, and the suppression of small holdings had ruined it by 1559; in 1832 it was the rottenest of rotten boroughs where no elections had been held for generations though two members were regularly returned to Parliament; to-day it is almost deserted. But the gridiron plan of the 'free town' laid out by Aymer de Valence can still be traced in the fields.

This, however, was not the first New Town on the estates of the See of Winchester; the episcopal Pipe-rolls from 1218 onwards record the payment of rents from newly established burgages in the 'Novus Burgus' that had sprung up on the main road from Newbury to Winchester in the parish of Sandleford, near Highclere. In May of the same year the bishop obtained a licence for a borough market; and for several centuries the New Town flourished and helped to make Winchester the richest see in England. By 1647, however, it had completely decayed; it was sold to the Earl of Carnarvon; and now, once more, as the local guide-book tells us, 'the district is purely agricultural'. Even the church is new, having been rebuilt from the ground in 1865.

If a list were made of towns showing a well-marked area of ancient parallel streets, and the records concerning each were examined, it is probable that many more instances of formal planning could be cited. But enough has been done for our present purpose, and it is time to pass on to the better known and more striking examples of the great thirteenth-century movement.



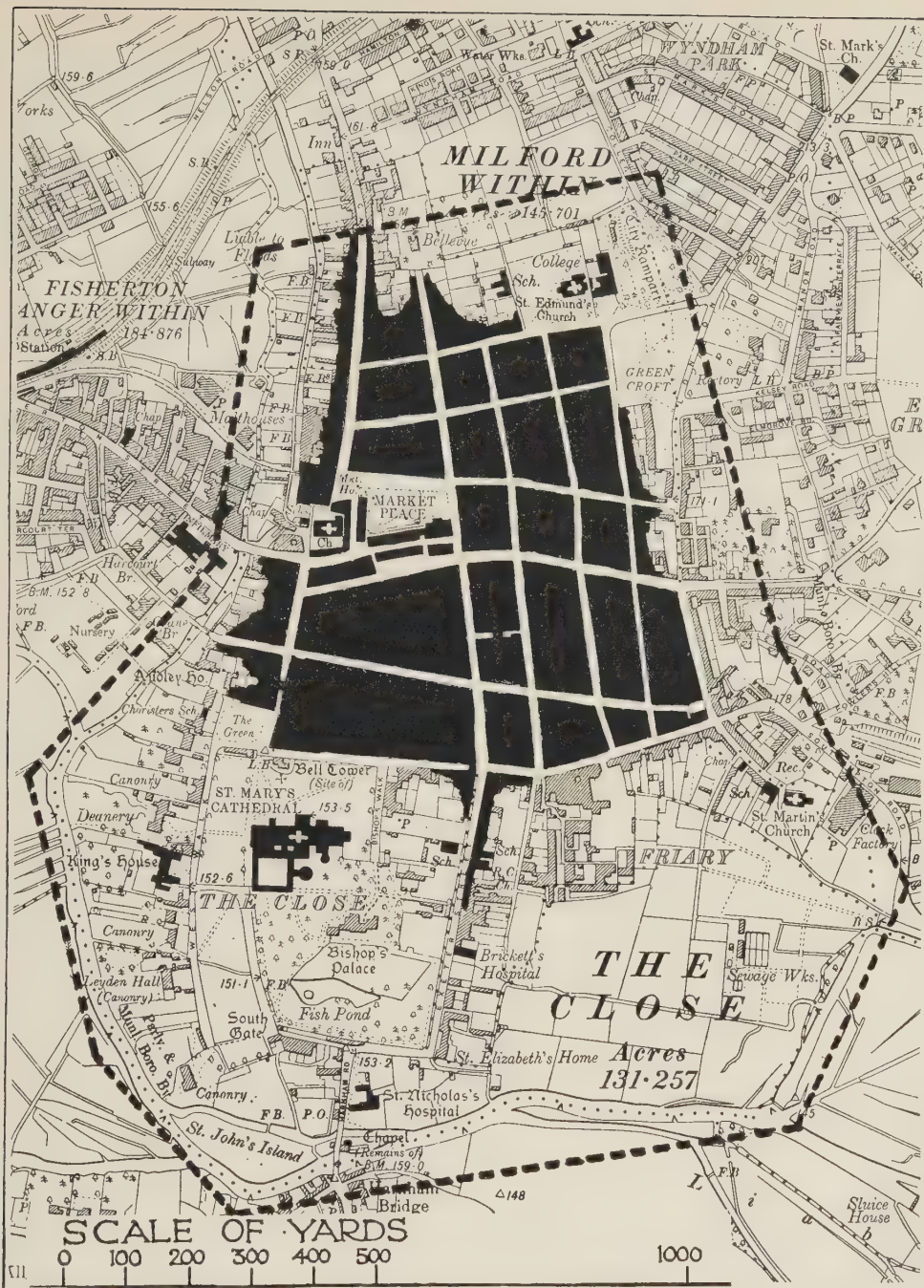


FIG. 41 SALISBURY 'New Sarum'

The broken line shows approximately the area of the 'New Sarum' built by Bishop Richard le Poer early in the thirteenth century. The town planned by the bishop north of the cathedral is shown in solid black. Adapted from the Ordnance Survey Map, by permission of the Controller of H.M. Stationery Office



In the last years of John's reign a migration of citizens began from the ancient hill-town of Saresbirie (Salisbury) to the river-plain below. Old Sarum, as it came to be called, was then a typical mediaeval stronghold built upon its impregnable height, 'ancient and exceeding strong' like

That grey crag where girt with towers,  
The fortress of Nequinum lowers.

But the military necessities that had forced earlier generations to endure the inconveniences of its cramped, windswept, and waterless site were ceasing to be paramount, while the growth in population, due to the building of the Norman cathedral, had made those inconveniences almost intolerable and led to constant friction between the clergy and the citizens; in 1220 therefore the then Bishop, Richard le Poer, determined to abandon the old town and to build a new episcopal seat on his meadows by Avon-side a mile or two below the hill, where some of his tenants had already established themselves.

Le Poer's plans, both for his church and for the town to be built beside it, have made Salisbury at this day one of the most lovely and commodious of cathedral cities—as it was when Leland visited it midway between then and now, and noted the 'many fair streates' and the 'little streamelettes and armes derivyd out of Avon that rennith thorough them' and the market-place 'very fair and large and well waterid with a renning stremelet; in a corner of it is *domus civica*—stronly buildid of stone.'

Full advantage was taken of the unencumbered site to provide 'ample room and verge enough'; a great close, the largest in England, was left as a green setting for the shining cathedral, with the bishop's palace to the south of it, and the new city to the north, with its wide straight streets and rectangular allotments of building ground. The Avon, making a right-angled turn, defended the site on the south and west; and a 'deep and strong' ditch fed by the river was carried round the other two sides of the rectangular outline; so that there was no need to build the walls for which the bishop had obtained licence in making his plans.

By 1227 the work was so far completed that the new city obtained a royal charter of privileges which ranked it with Winchester and Oxford as a self-governing community, and the parent settlement was deserted except by the garrison of the

castle. Then the ancient highway was diverted so as to cross the Avon at Harnham bridge and pass through the new centre, thus bringing into it the traffic that had formerly passed through Wilton the old capital of the Wilsætas which, robbed of its trade, declined into the small and sleepy condition in which it still remains.

In the same year when he got his charter for Salisbury the bishop obtained also a grant of a market for another town not previously mentioned in our records, Wokingham,<sup>1</sup> in the great manor of Sonning, where he had a palace. The regular lay-out of the streets and the absence of any previous mention of the town suggest that the bishop rounded off his work at Salisbury by laying out another new town, on the manor from which his Saxon predecessors had taken their title.<sup>2</sup>

Though Salisbury with its rectangular outline, its chess-board pattern and its square market-place resembles in plan the Continental bastides, its origin was very different from theirs; it was founded from the first as an ecclesiastical and commercial centre. For the British bastides we must turn to the garrison towns which Edward I established in Wales in accordance with the policy he had successfully pursued in his French dominions.

A comparison with the Gascon examples suggests that the Welsh bastides owe a good deal to the experience gained in Edward's earlier projects. Their sites are almost all selected with a discerning eye for economic no less than for military considerations; so that a much larger proportion of them developed into important towns. Flint, the first of them, founded and named in 1277, became the capital of its district from its command of the Dee; Rhuddlan, at the limit of navigation of the Clwyd, soon attracted traders with their ships and merchandise, and grew so prosperous that Edward proposed to transfer to it the See of St. Asaph; Carnarvon and Beaumaris, like bridgeheads on opposite sides of the Menai Straits, would obviously attract merchants when their citadels promised security for goods; and Conway, on a navigable river at the point where the passes from Snowdonia crossed it, was certain (from the time of its foundation) to become a place of importance. On the other hand, the

<sup>1</sup> 'in manerio suo de Sunninge apud Wokingham', Sarum Charters, 23 Mar. 1227.

<sup>2</sup> Until 1072 the see had been sometimes at Sonning, sometimes at Ramsbury.

site of Bere, among the barren and trackless hills of Merioneth, had nothing but its strategic position to recommend it, and was never developed.

The plans, however, and the political arrangements of the Welsh bastides followed closely their Gascon originals. Even though the physical configuration of the site often made it necessary to depart from the customary rectangular outline, as at Conway, which is shaped like a Welsh harp, the area within the walls was always laid out with geometrical regularity in oblong blocks with straight streets meeting at right angles, a

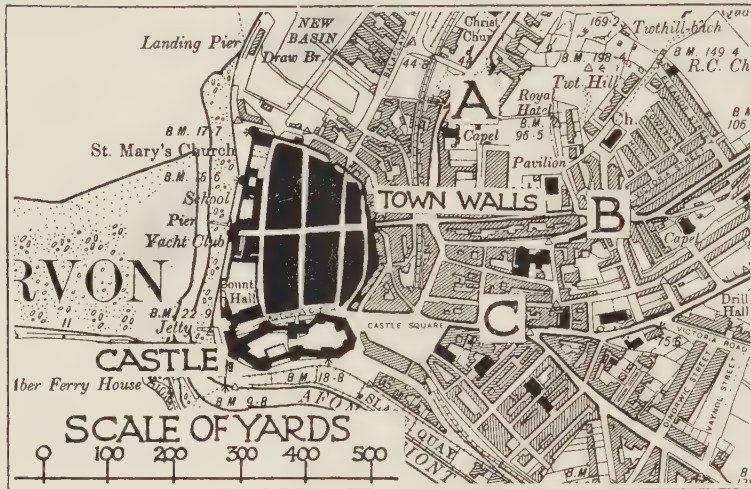


FIG. 42 CARNARVON

The Castle and Walled Town built by Edward I. Late thirteenth century. Subsequent extension of town took place along the lines of roads A, B, C. Adapted from the Ordnance Survey Map, by permission of the Controller of H.M. Stationery Office.

plan which enabled the garrison of the citadel to control the civil population and to recover possession of the town if it were seized by a surprise attack.

But the majority, and, at first, the whole of the inhabitants, like the garrison itself, were English colonists attracted to the place by Edward's Gascon policy of offering grants of lands outside the city wall, and the monopoly of trade in the district. It is interesting, and perhaps instructive, to note that the 'burgages' of land allotted to the English settlers in the Welsh bastides were considerably larger than those of the French; for the English were a prosperous people and needed a strong inducement to leave their own country and settle in a barren



and hungry land. Moreover, in the French bastides, as in the cave of Adullam, all sorts of men were welcomed and no references required; but only free Englishmen were admitted to the citizenship of Edward's new towns, one of the attractions of which was their complete freedom from Jews and Welshmen.

The lords of the marches also at various dates founded bastides in southern and western Wales. The second Edward added others—Newborough in Anglesea being one—and a few were built by the Black Prince.

The prefix 'new', so common in Welsh place-names, marks

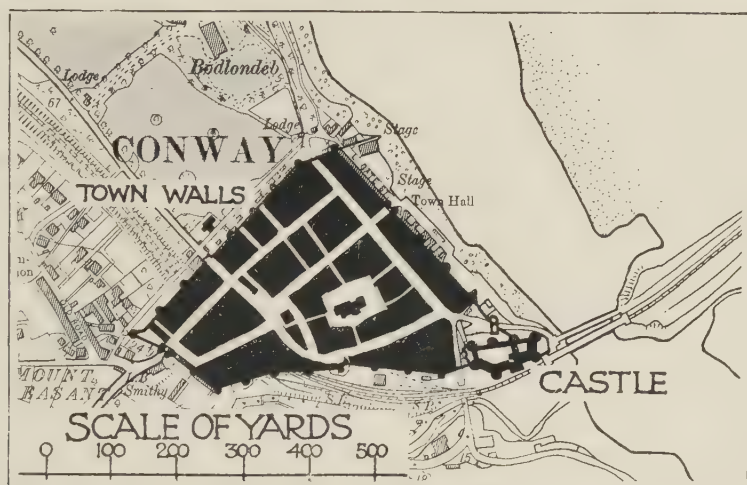


FIG. 43 CONWAY

Built by Edward I. Late thirteenth century. Note the regular planning of streets within the town walls. Adapted from the Ordnance Survey Map, by permission of the Controller of H.M. Stationery Office

many of these alien foundations; wherever it occurs there is usually some evidence in the street plan also that it dates from the age of the bastides.

The name of Edward's architect, James St. George, who carried out the largest of his Welsh projects, has happily come down to us. A family of that name owned Hatley St. George, near Cambridge, for many generations; it would be interesting to trace the connexion between Sir Baldwin St. George, whose fine memorial brass remains in the church there, and the first recorded English architect who devoted his talents to town-planning.

The fame of our greatest English king does not rest only on his military achievements—except in our school history books. He

was indeed greater in peace than in war ; and his town-planning schemes for England, though necessarily fewer, are even more important than his foreign undertakings. The largest and most pregnant of all his foundations was ' the king's new town of Kingston upon the Hull ', whose docks and trade and wealth, and their importance to England, he clearly foresaw ' when as yet there were none of them '.

Two considerations led him to fix his discerning eye upon a site then almost deserted. His Scotch policy had so constantly demanded his presence in the north that for many years he had made York the temporary capital of England ; its port Ravenser on the Humber was already in danger from the encroachments of the sea, when it and the whole lordship of Holderness reverted to the king by the failure of the line of Albemarle, the feudal lords of east Yorkshire. So alike in the interests of his realm and of his new Crown lands he surveyed the coast to find the most suitable position for a new port. The eye, quickened by experience in many similar projects,<sup>1</sup> soon saw the commercial possibilities of a site in the angle where the river Hull enters the Humber, and here the king resolved to build.

A few traders had already anticipated him in realizing the advantages offered to shipping ; Leland tells us that stockfish from Iceland had long been unloaded there and ' by cause the burden of stokfisch was light, the shipes were ballised with great coble stone brought out of Iseland, the which yn continuance pavid al the toun of Kingeston thoroughout '.<sup>2</sup> The place, then called indifferently Wyke and Hull, from the neighbouring river, belonged to the Abbey of Meaux, and Edward's first business was to get possession of it by exchange for other lands in February 1293. Next by a charter of July in which the place is referred to by its new name of Kingstown, he established two weekly markets ; and then he proceeded to lay out the site.

A deep trench carrying the water from the river completely round the unprotected sides was his first care, though not even his prescience could have foreseen the great ring of docks that was to follow the line of his work.

The rectangular area so protected by water and walls was laid out in bastide fashion ; in Hollar's map of the seventeenth-

<sup>1</sup> e.g. Libourne in Aquitaine on a precisely similar site.

<sup>2</sup> But the Patent Rolls of Edward II

show a licence enabling the bailiffs to lay a special toll on all goods sold, in order to obtain funds to pave the streets.

century city the original plan is seen still almost unaltered, with the great market-place, set like a Roman forum in one of the angles where the main streets cross and having the parish church of Holy Trinity on one side of it, the chess-board arrangement of its building-blocks, and its many-bastioned wall. Even to-day in the market-place and the neighbouring streets the main lines of Edward's lay-out are clearly traceable.

But though the plan was conventional the problem of finding building material in a district remote from stone quarries was solved in a new and interesting manner. Brick-making,



FIG. 44 Plan of Hull about the time of the Siege

which had become a lost art since the Romans left Britain, had been revived in Flanders, and Edward, ever open to new ideas, saw that the new material would enable him to build his town far more quickly.

It is possible that some of the bricks were imported, but Leland, though his dates are mistaken, tells us that 'most part of the briik that the waulles and houses of Kingston wer buildid was made without the south side of the toun; the place is caullid the Tylerie'.<sup>1</sup> Brick remained elsewhere an uncommon building material until the end of the Middle Ages. One of the chief examples of its use is in the early fifteenth-century hospital at Ewelme in Oxfordshire.

<sup>1</sup> Bricks when reintroduced into England were known as Flaunders tyles.



The coincidence is not accidental. Just as le Poer's new city had drawn away the population and trade of Old Sarum and Wilton, so the King's town on Hull tended to attract merchants from decaying Ravenser. But Edward was not content to watch the slow process of evolution: he knew that the prerogative of man is to accelerate the 'natural course of things'; and he therefore made an offer of his manor of Myton, lying near his new foundation, to the greatest of the Ravenser merchants, William de la Pole, who thereupon removed to Kingston and 'buildid a goodly house of brike again the west end of St. Maries Chirch lyke a palace with goodly orchard and gardein at large, enclosid with brike'. His successors built other great houses in the town and became the first and perhaps the greatest of England's merchant princes; so that they might have inscribed on the walls of Hull, like Wykeham at Windsor, the enigmatic sentence *Hoc fecit de la Pole*.<sup>1</sup> It was William, Duke of Suffolk, grandson of William de la Pole, who built Ewelme Hospital, no doubt importing the bricks and bricklayers from his ancestral estate at Kingstown.

The scheme that in Edward's own day must have seemed the greatest and most promising of all his building enterprises, and for which even his work at Hull was perhaps regarded as an experimental effort, illustrates in ours the justification for the irony that couples in a common futility the schemes of mice and men. Winchelsea, designed by Edward to be the greatest seaport of his kingdom, and from which he sailed with a great army on his last expedition against the French in August 1297, is now an inland village set among green pastures through which the

doubling Rother crawls  
To find the fickle tide,  
By dry and sea-forgotten walls,  
Our ports of stranded pride.

The first Winchelsea, the coast town where Fitz Urse and his companions had landed on their way to the murder of Becket, lies now under the waves of the English Channel. In the earlier part of Edward's reign it was still a prosperous port though, like Ravenser, it was subject to inundation at exceptionally high tides and was clearly doomed if the subsidence of the coast should continue.

<sup>1</sup> Wykeham is said to have translated his sentence to his jealous master as 'This made Wykeham'.

So early as 1280 the sagacious Edward had foreseen the inevitable end and made provision for the future; the Patent Rolls for that year show that he had directed his steward to obtain by purchase or exchange from the owners—Sir John Tregose, one Maurice, and Battle Abbey—land in the manor of Iham, including a low, wooded hill rising above the estuary of the Brede a few miles

north-west from the threatened town, 'the wiche was at that tyme a ground wher conies partly did resorte'. Then, like all great administrators, he looked round him for suitable instruments to carry out his plans. The choice he made illustrates the truth of the saying attributed to Queen Elizabeth that 'no fool was ever known to choose good servants'. Of his three commissioners nominated in 1281 Stephen Penshurst, a localman, was Warden

of the Cinque Ports, Itier of Angoulême was a Gascon who had helped to plan his

French bastides, and Henry le Waleys was a thirteenth-century Rothschild, whose business interests on both sides of the Channel had made him mayor of Bordeaux as well as of London. To these were afterwards added Gregory Rokesley, mayor of London, and Kirkby, Bishop of Ely and Treasurer to Edward I.

The king's instructions to them show how he intended to use 'the men who know best how to devise, order, and array a new town to the most profit of the king and of the merchants', and the wonderful attention to details which he had given to

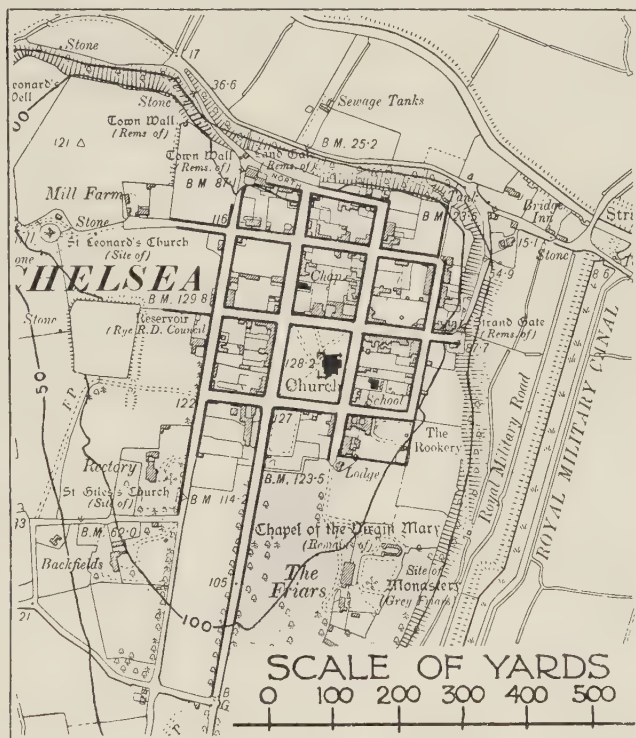


FIG. 45 WINCHELSEA

Laid out by order of Edward I. End of thirteenth century. Portion only of the original town shown as now existing. Adapted from the Ordnance Survey Map, by permission of the Controller of H.M. Stationery Office

the scheme amid his many and varied enterprises ; they were to plan and give order for the laying out of highways and byways, of a market-place, of two churches to be dedicated to specified saints,<sup>1</sup> and of building sites to suit the requirements of the king's new tenants. ' And so was there VII score and tenne acres limited to (i. e. within the limits of) the new toune, whereof part is in the king mede withoute the toune, and part in hanging of the hill (to the north of the site).' The ground was laid out in thirty-nine blocks, most of them almost exact squares like that in which the church of St. Thomas still stands.

A great ' rage of the se ' in 1287 quickened the willingness of the Old Winchelsea burghers to change their quarters and take up the new allotments, which they did ' by a litle and a litle and buildid at the new toune '. Their chief citizen was Gervase Alard, like de la Pole ' a man of estimation and a notable marchaute '. Edward made him Constable of the new town for his life ; and his beautiful tomb, one of the loveliest things in England, may still be seen in the church he helped to build. Another was Finch alias Herbert from whom the present Earls of Winchelsea descend.

The Grey Friars of Old Winchelsea were given the south-eastern quarter of the town, and soon transferred their monastery to its new site, where parts of their buildings are still standing. A wall with strong gate-towers was built, and a moat was dug on the west or landward side—though these precautions did not save the town from being several times entered and sacked by the French in the next century. The two parish churches that had sufficed for the old town were supplemented by a third, St. Leonard's, in the new. And in the next generation the population had so increased that the town could supply 596 sailors and 21 ships to assist Edward III in the siege of Calais.

But its prosperity was short-lived ; the sea which had destroyed the old town by drowning it ruined the new one by deserting its harbour and retreating to its former bed. The merchants abandoned the place, the shipbuilders, and the sailors. Its churches fell into ruin, till a mere fragment of one of them sufficed the remaining handful of its inhabitants. To-day the majority of its ' checkers ' or town plots are cultivated closes

<sup>1</sup> St. Thomas the Martyr and St. Giles, to whom the parish churches in Old Winchelsea were dedicated.



and pastures where the descendants of Leland's conies again 'do partely resorte'.

The floors of many a gallant house  
Are matted with the roots of grass ;  
The glow-worm and the nimble mouse  
Among 'her ruins flit and pass.

Edward's last building scheme was a plan to lay out Berwick as a great bastide and military port on his northern frontier. His choice of the site reveals as usual his keen perception of its military and economic advantages. But the king was growing old ; and his hands were over-full. He summoned a large body of experts to prepare a plan ; and there, lacking the driving force of his own personal activity, the matter seems to have ended, since there is no evidence that the work at Berwick was ever begun.

Among the towns called upon to advise the king upon his Berwick scheme, 'rather inexplicably' says Professor Tout, was Oxford. The explanation may be that Oxford was known in that age as a planned city and indeed as the earliest of English examples. If no record of the fact has come down to us it is perhaps, as Mr. Salter believes, because the thing was done before the end of the Dark Ages. Records do exist to prove that the street plan of Oxford has changed very little since 1086. Now that plan is so regular, with its main roads crossing at a Carfax, its streets all meeting at right angles, and its divisions all rectangular in shape, that only the absence of Roman remains prevents us from accepting the theory of the older archaeologists that Oxford was a Roman city. It is certain that towns do not *grow* in such a fashion from the small nucleus of hamlet or village : Oxford must have been either built or rebuilt as a whole to have assumed its present shape. But almost all its ancient churches stand at the corners of its house-blocks where the roads meet and cross ; these are the desirable positions coveted by traders for business premises ;<sup>1</sup> they are the highly rented sites, and they could have been allotted to churches only if there had been no one with prescriptive claims on the land, only too by some one who was planning with larger ideas than those of a shopkeeper. Who that was, is perhaps an insoluble problem. Mr. Salter is probably right in supposing a king, for Oxford was in royal hands when its history began. It may even have been King Alfred : many

<sup>1</sup> It is noteworthy that none of the older Colleges or University buildings was able to secure a corner site.

legends associate his name with the city; the Anglo-Saxon Chronicle records that in 886 he rebuilt London, 'and committed the town to the keeping of Ethered the alderman'. Now this Ethered was also in charge of Oxford, for the first historical reference to it occurs at his death in 912, 'this year died Ethered alderman of the Mercians, and King Edward took into his own hands Londonbyrig and Oxnaforda and all the lands that owed obedience thereto'. Perhaps, therefore, Alfred built Oxford when he restored London, and placed them under one command in order to secure the line of the Thames. A town important enough to be coupled with London must surely have been mentioned before unless it were a new foundation.

At the other end of the Middle Ages we have Bewdley, of which Leland 'asked a merchant there of the antientnesse of the towne, and he answered me that it was but a new towne, adding that they had libertys granted by K. Edward'.

These early experiments in town-planning, though perhaps more numerous and important than has been realized, were always exceptional, and due, like our own garden cities, to a few far-sighted individuals acting in advance of their time. They had very little influence on the growth of other towns, which continued to develop formlessly without plan or scheme throughout the Middle Ages. Since they were limited by their walls and moats they steadily tended to become overcrowded, and open spaces were more and more encroached upon.

The lay-out of the typical burgage tenement seems to have lent itself to sub-division. Most of the domestic buildings alike in town and country were timber-framed and so have completely vanished. It is therefore difficult to recover any idea of their plans. In the Cotswold town of Burford, however, we have a little English town that, like the palace of the Sleeping Beauty, went to sleep in the Middle Ages and has hardly yet awoke. Here enough remains to show that the usual burgage house had a stone gateway in the middle of its frontage opening on a passage with doors in its side walls giving access to the lower rooms of the house. The passage led under the upper floor to a yard behind, where were the outhouses and stables.<sup>1</sup> It thus divided the ground floor of the house into two parts and so made it easy to make two small dwellings of the original house. And, since these smaller houses would need no stables, others could be built in the yard.

<sup>1</sup> This plan is still common in our older inns.

Throughout the Middle Ages there appear to have been streets used almost entirely for shopping purposes. That certain of them in the larger towns were set apart for special trades is evident from such street names as Goldsmiths' Row and Paternoster Row in London; Butcher Row, Shrewsbury; Fishergate, Ripon; Baxtergate ('Bakers' Gate'), Whitby, and Bridlesmithgate, Nottingham.

The earliest shops in front of the town houses were known as 'taverns' or sometimes as 'cellars'. Many of them were, in fact, excavated below the level of the street and approached by external steps, which, with the benches for the display of goods, blocked the traffic. In *Piers Plowman* there is a reference to the noise made by the touting at the shop door. Such streets must have resembled an Eastern bazaar.

The underground tavern seems to have been superseded by the booth or open shed (e. g. the Lucken Booths of Edinburgh) placed in front of the houses, and these were ultimately replaced by the shop which formed part of the house itself as is now the custom with the smallest places of business.

The growing wealth of the traders enabled them to buy up large sites to build themselves new houses, and even to lay out gardens, so making matters worse for the poor—Leland and Stow give many examples of merchants' houses built in the fourteenth and fifteenth centuries.

These evils were not altogether due, as Professor Tout implies, to ignorance and indifference: the by-laws contradict that view. At Southampton, for example, in 1439 William Soper was granted permission to construct solars above his house only on condition that he left a highway (via regalis) thirteen feet wide with a headway of not less than sixteen feet. The mischief was due, like so much of our modern squalor, rather to the evasion of laws than to the lack of them.

Most of the pictures and descriptions of mediaeval towns show them as they appeared in later centuries; from the descriptions at least we should judge that time had merely aggravated their disagreeable features. Thus Evelyn writes of Salisbury in the seventeenth century as a city that well 'might be purg'd and render'd infinitely agreeable and made one of the sweetest towns; but now the common buildings are despicable and the streets dirty'. Smollett in the next century makes Matthew Bramble say that the 'city of Durham appears like a confused heap of stones and brick, accumulated so as to cover a mountain. . . .



'The Streets are generally narrow, dark, and unpleasant, and many of them almost impassable in consequence of their declivity. . . . As for Newcastle it lies mostly in a bottom and makes an appearance still more disagreeable than that of Durham.'

Yet with all of what to us would be its annoyances a mediaeval city must have been a wonderful sight, like that vision of Oxford one gets in the early morning from the hill above



FIG. 46 LONDON BRIDGE

From Visscher's View of London, 1616

Iffley church or at evening from Wytham Wood, where the modern suburbs are shut off from the view, 'a vision of grey roofed houses, and a long, winding street and the sound of many bells'.

The wealth of ecclesiastical buildings must have given all our towns something of the beauty their colleges still give the universities. For not merely have the monasteries vanished, with their minsters and bell towers and gatehouses, but our remaining parish churches are only a fraction of the number that once were crowded into the small area which forms the

nucleus of the modern town. Wallingford, for example, had thirteen churches where now are three, and Dorchester had at least three beside its Abbey. The Nonconformist chapels that have taken the places of some of these vanished churches are a poor substitute for the beauty that has gone.

The variety in the houses, both of size and proportion, must also have added greatly to the charm of the mediaeval city. There was no segregation of the poor in slums ; there were no



FIG. 47 THE CITY OF DURHAM  
A View in the Seventeenth Century

‘ residential ’ areas set aside for the wealthy ; some houses were tiled, others roofed with stone shingles, some, in spite of prohibitions, with thatch. Stained glass was used in the richer private houses as well as in church windows ; emblazoned armorial signs swung over the doors of houses and inns ; the walls of all the buildings were plastered white, washed over with designs in colour as were the spires and pinnacles of the churches—and many churches had small spires of lead and timber that now have vanished. Pictures and pageants have made us familiar with the richness and variety of colour in

mediaeval dress, but we are apt to forget that this stimulus was emphasized and repeated in the buildings of the age, so that man might have said, even of his earthly abiding place :

Like jasper glow thy bulwarks,  
Thy streets with emeralds blaze ;  
The sardius and the topaz  
Unite in thee their rays.



FIG. 48 THAXTED, ESSEX

The Guild Hall. The adjacent buildings are shown as in their original state

The villages, too, as we may see in those

Where all things in their place remain  
As they were ordered ages hence,

were far more beautiful and perhaps not more insanitary than most of ours to-day. Grouped round the church tower, all their houses set in relation to the green, they possessed a unity that is sadly lacking in the haphazard arrangement of later development. That unity derives also from the common use of local materials which gave character to the villages of different districts—the plentiful timber of Cheshire, Hereford, and Kent, the shingles or ‘slates’ of North Oxon., the flint of Norfolk, the ironstone of Northampton, the yellow oolite of the Cots-



wolds. In the home counties a fine clay provided brick earth which began to be worked early in the fourteenth century, and in the sixteenth became the prevailing material for houses and even for churches, many of which, e.g. Stoke Poges, had aisles or chapels added in brickwork. The smoothness of surface and regularity of line reflected and harmonized with the wide fallow of a clay country, just as the granite of Cornwall and the Lake district gave a rugged character to the buildings well suited to the contours of a mountainous land so that, as Wordsworth



FIG. 49 SEVENHAMPTON, GLOUCESTERSHIRE

The type of building seen in this village is characteristic of all the towns and villages of the 'Cotswold District' and elsewhere where the same building-stone is quarried. Compare this view with Shrewsbury (Fig. 36), a town built where timber, and not stone, was plentiful

wrote, they 'may rather be said to have grown than to have been erected—to have risen, by an instinct of their own, out of the native rock'. But cheap transport has dumped down the red bricks of Staffordshire, of Ruabon and Accrington among the grey mountains of Wales, and the blue slates of Penmaenmawr among the golden ironstone of Northampton. The result is not picturesque variety but crude contrast.

The right choice and use of material is an important matter. To continue the traditions of the village or town in any new extension the proper choice of materials must be the first consideration if the scheme is to be successful. And the only materials proper to the buildings of a district are those which the district itself supplies. Sir Joshua Reynolds once said that

‘ If you would fix upon the best colour for your house, turn up a stone, or pluck up a handful of grass by the roots, and see what is the colour of the soil where the house is to stand, and let that be your choice ’.

That should, at least, influence the choice if Wordsworth’s ideal is to be realized that the buildings of a landscape should ‘ appear to be received into the bosom of the living principle of things, as it acts and exists among the woods and fields ; and, by their colour and their shape, affectingly direct the thoughts to that tranquil course of Nature and simplicity ’.

The effects of the Renaissance on town-planning in England, though ultimately felt, were not immediately revolutionary. They manifested themselves at first rather in the country than in the towns. Artillery had made ramparts and moats useless, as the peace of the Tudors



FIG. 50 YARMOUTH

The area bounded on the west by the river and on the east by Market Place and King Street is an interesting example of studied planning carried out some two centuries ago. Running at right angles to the quay are the ‘ Rows ’—narrow streets of an average width of 4 to 5 feet. Adapted from the Ordnance Survey Map, by permission of the Controller of H.M. Stationery Office

made them unnecessary ; and so there was a great migration into the country. The enriched city merchants bought the manors of the old nobility—which their descendants are now selling to the war-wealthy—and laid out not towns (with one remarkable exception) but great country houses.



The smaller men built new houses outside their towns, forming rural suburbs where had been the open 'field of fire' beyond the walls; but these suburbs were not laid out: they grew up as house was added to house until a street or streets resulted. Holywell Street in Oxford, once a line of detached houses following the course of the city wall, is a good example of what happened in most towns in the sixteenth and seventeenth centuries.

It must be observed, however, that for the one real town-planning scheme of the period the great merchant companies were almost entirely responsible: the days when kings founded cities and called them after their names were now over; and Londonderry, rebuilt and named anew by London merchants, is witness to the fact. It has the further interest for students of town-planning that it is probably the earliest scheme of which a contemporary plan has come down to us with the documentary records. This plan, preserved in the archives of the Drapers' Company of London and reproduced here by permission, makes a detailed description unnecessary; but Macaulay's account of the circumstances in which it was produced may be quoted, for it is derived from the contemporary records of one of the companies, the Grocers, which took part in the scheme. 'During the troubles caused by the last struggles of the house of O'Neil and O'Donnel against the authority of James I, the ancient city of Derry had been surprised by one of the native chiefs: the inhabitants had been slaughtered, and the houses reduced to ashes. The insurgents were speedily put down and punished: the government resolved to restore the ruined town: the Lord Mayor, Aldermen, and Common Council of London were invited to assist in the work; and king James I made over to them in their corporate capacity the ground covered by the ruins of the old Derry and about 6000 English acres in the neighbourhood. . . . A new city soon arose which, on account of its connexion with the capital of the Empire, was called Londonderry. . . . The city was in form nearly an ellipse; and the principal streets formed a cross, the arms of which met in a square called the Diamond. . . . The dwellings were compassed by a wall of which the whole circumference was little less than a mile. On the bastions were planted culverins and sakers presented by the wealthy guilds of London to the colony.'

Thus the single 'new' city of Britain was provided with



a wall at the very time when English towns were escaping from their narrow *enceinte*. The immediate result of this expansion was to relieve the congestion of the central areas, and so to make our cities more sanitary and convenient to dwell in.

There were at the same time developments in the machinery of municipal government, many of the powers and functions

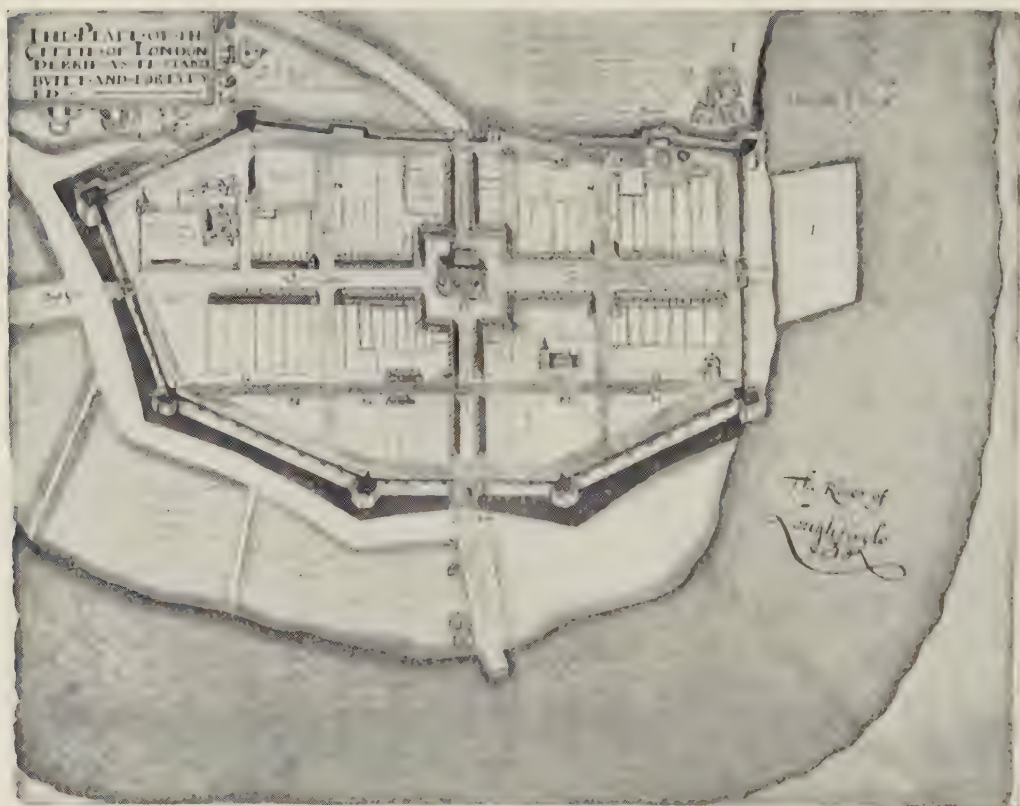


FIG. 51 LONDONDERRY 1622

previously exercised by the gilds passing into the hands of the reorganized borough councils—the majority of our corporations derive their constitutions from charters of the Tudors and Stewarts. Carlisle still treasures in its archives a book inscribed, ‘The Regestar, Governor or Dormont Book of the Comonwelth of thinhabitances within the citie of Carlell, renewed in the yere of our Lord God 1561.’ It represents a typical attempt to revive and codify the neglected by-laws and to supplement them where necessary. Provision is made for cleaning the streets and main-

taining order in them, for muzzling dangerous dogs and restraining pigs from wandering at large. The freedom of the individual to improve his own premises at the expense of his neighbour's amenities is restricted, in what we should now consider a most reactionary manner, on the ground that 'Forasmuch as a commonalty standeth with sundry kinds of people gathered together which be of diverse minds and contrary appetites it cannot be avoided that business shall arise therein unless the same be well foreseen with wisdom in rules and officers. For if wisdom reign in authority commonwealths cannot decay so long as they have a brotherly affection among them maintained . . . having a fervent zeal to the common wealth and the maintenance thereof.' It was in some such municipal school that Cromwell learned his Utopian creed, 'To make many poor that a few may be rich : that suits not a commonwealth.'

The growth of civic consciousness is seen also in the tendency to make the water supply a municipal matter, to provide for the common need at the common charge. London had hitherto been perhaps the only English city possessing a conduit system : as early as 1401 the 'fair well of spring water curbed round with hardstone' on Cornhill had been replaced by a cistern supplied by lead pipes from the Tybourne springs ;<sup>1</sup> Fleet Street obtained a supply from a conduit head at Paddington brought in lead pipes to a standard set up at the south end of Shoe Lane in 1471 ; a standard in Cheapside is mentioned as early as 1293 as the usual place for executions. But most of these early enterprises appear to have been due to private benefactors ; and even in the sixteenth century London depended largely on Thames water and on pumps and wells—the well in Aldgate was replaced by the famous pump as late as Elizabeth's reign, though Myddleton's 'New River', perhaps suggested by More's vision of the water supply in *Utopia* (Book II, Chapter II), was soon to be proposed. Now, however, even small provincial towns began to lay out water works. Southampton had municipalized its supply among the first, for Leland notes 'there cummith fresch water into Hampton by a conduct of leade, and there be certain castelletes<sup>2</sup> onto this conduct withyn the town'.

<sup>1</sup> Another was built in 1582 and supplied with Thames water by means of a forcer invented by 'one Peter Morice, a Hollander' and driven by the rush of

the tide through an arch of London Bridge.

<sup>2</sup> Distributing cisterns—cf. Pliny.

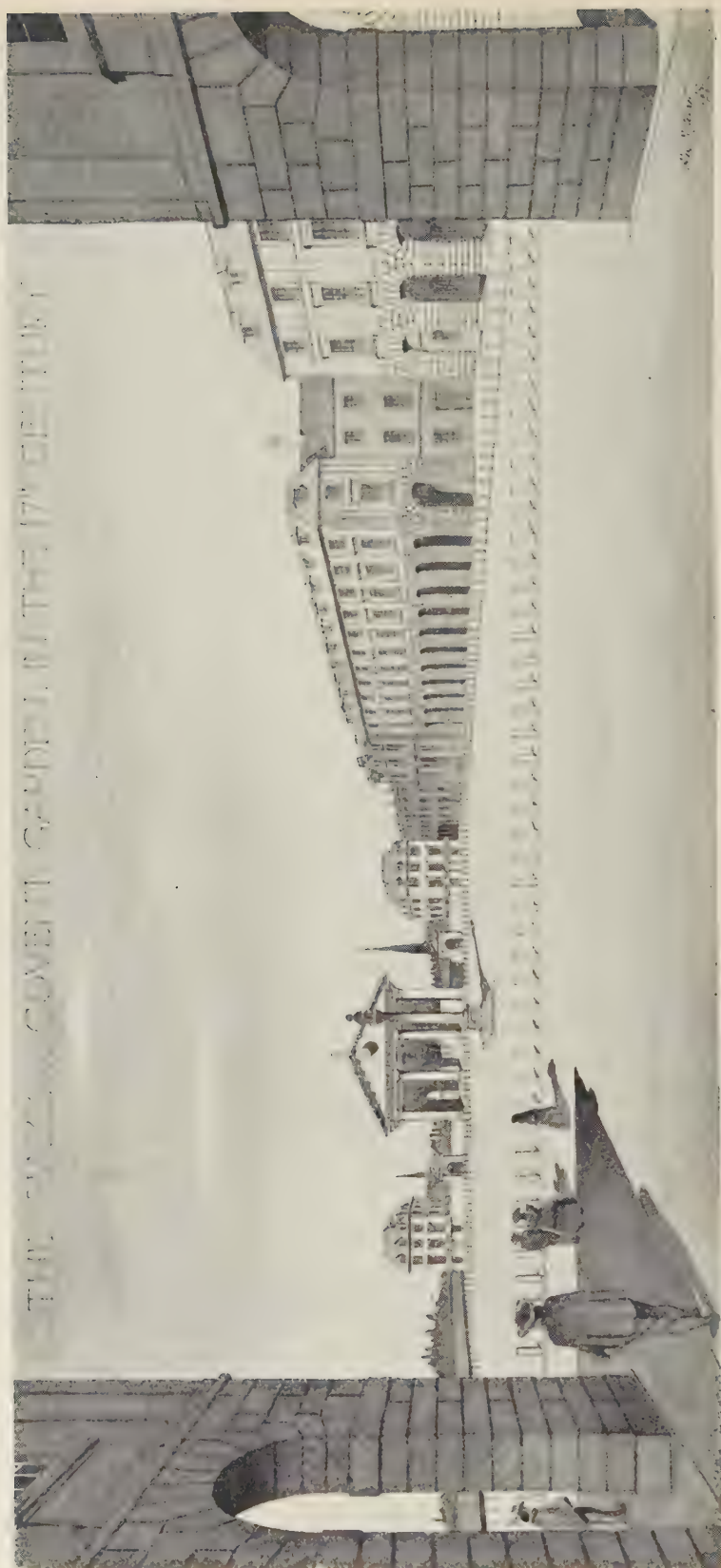


FIG. 52 THE PIAZZA COVENT GARDEN

An early 'Town Planning' scheme in England. The Piazza, which was designed by Inigo Jones, measures about 400 by 500 feet, and was originally intended to have arcaded buildings on the south side (left of picture) similar to those on the north



In 1618 the corporation of Newport granted a lease to one Philip Fleming empowering him to 'break up any street to lay trunks for the convenient carrying and conveying of wholesome spring water into this town and so into every man's house that shall compound with the said Philip for the same'. Trunks of hollow elm laid down in the sixteenth century to supply Reading with water have recently been dug up and are now in the local museum. Oxford got its first public water-works as a gift from Otho Nicholson, whose conduit head, a beautiful little Jacobean building, still stands on Hinksey Hill above the city, though his standard was moved from Carfax to Nuneham Park in the eighteenth century.

It was then that the Renaissance ideals first began to manifest themselves in schemes for improving the lay-out of towns. Inigo Jones, our first Renaissance architect, who had studied in Italy making Palladio's books his guide, was imbued with the new spirit.

In 1618 a commission was appointed to lay out Lincoln's Inn Fields, and for this Inigo Jones prepared the designs. Great Queen Street was added by his pupil Webb. Covent Garden Market was planned by Inigo Jones in 1631 with a piazza on the north and east sides, St. Paul's Church on the west, and the gardens of Bedford House on the south. Then the Civil War put a stop to building until Wren's great opportunity came (and went)—one of the saddest 'might have beens' in history. Wren's scheme shows, among other things, that he had learned (perhaps in Paris, where he came in contact with the Italian, Bernini, who planned the vast forecourt to St. Peter's, Rome) that great buildings to be fully effective should have open spaces in front of them for near views, far stretching vistas for distant; hence the broad approach schemed for St. Paul's, the setting to the Exchange, and so also his parish churches were designed to close the view down long avenues of houses.<sup>1</sup> We can sympathize with Wren's dismay when his dream city dissolved into thin air. His London plan was not the only scheme that was frustrated by the 'other commitments' of the King; he had plans for wide avenues stretching from Hyde Park Corner to Kensington and from Kensington to Chelsea Hospital; and another for a great

<sup>1</sup> There are interesting points of the independent, amateur effort of Evelyn resemblance between Wren's plan and (cf. Figs. 53 and 54).

street at Winchester, running straight up hill and down, from the west end of the cathedral to the new palace he was building for Charles on the eastern heights of the city, giving vistas at either end. Happily, in his scheme for Greenwich Hospital he was able to see his fine planning realized.

A scheme of the succeeding century, the Bath scheme, was never completed ; but enough was done to make parts of Bath

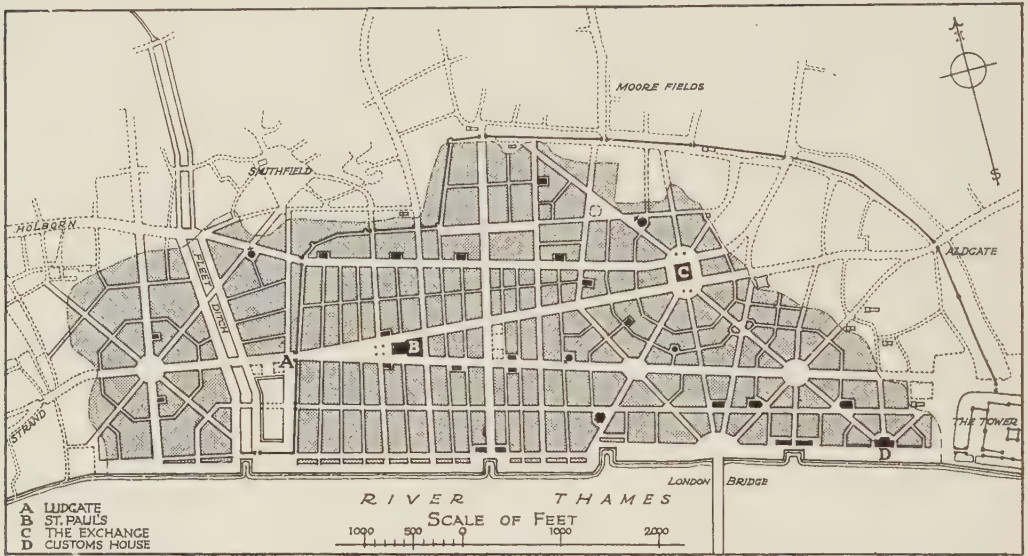


FIG. 53 WREN'S PLAN FOR REBUILDING LONDON  
AFTER THE GREAT FIRE, 1666

The area re-planned by Wren included St. Paul's (B) and the Royal Exchange (C). The latter building was to be the centre of the city and to be surrounded by public buildings such as the Mint, Excise Office, &c. From it radiated ten streets, six of which would form fine vistas to the building itself. Note the view that would have been obtained of St. Paul's from the Triumphal Arch at Ludgate (A), framed in by churches on each side of Ludgate Hill. Note also the careful placing of the city churches (shown by small black squares) to form vistas to the streets

the best laid out of any town in Britain. Smollett, it is true, in the person of Matthew Bramble, made adverse criticisms, some of which are perhaps justified. He admits that 'the Square (see frontispiece) (i. e. Queen's Square), though irregular, is, on the whole pretty well laid out, spacious, open, and airy ; and, in my opinion, by far the most wholesome and agreeable situation in Bath, especially the upper side of it ; but the avenues to it [for which, by the way, the designer of the square was not responsible] are mean, dirty, dangerous and indirect'. He considers the

Circus 'a pretty bauble contrived for show and looks like Vespasian's amphitheatre turned outside in. If we consider it in point of magnificence, the great number of small doors belonging to the separate houses,<sup>1</sup> the inconsiderable height of the different orders, the affected ornaments of the architrave, which are both childish and misplaced, and the areas projecting into the street, surrounded with iron rails, destroy a good part of its effect upon the eye. And perhaps we shall find it still more

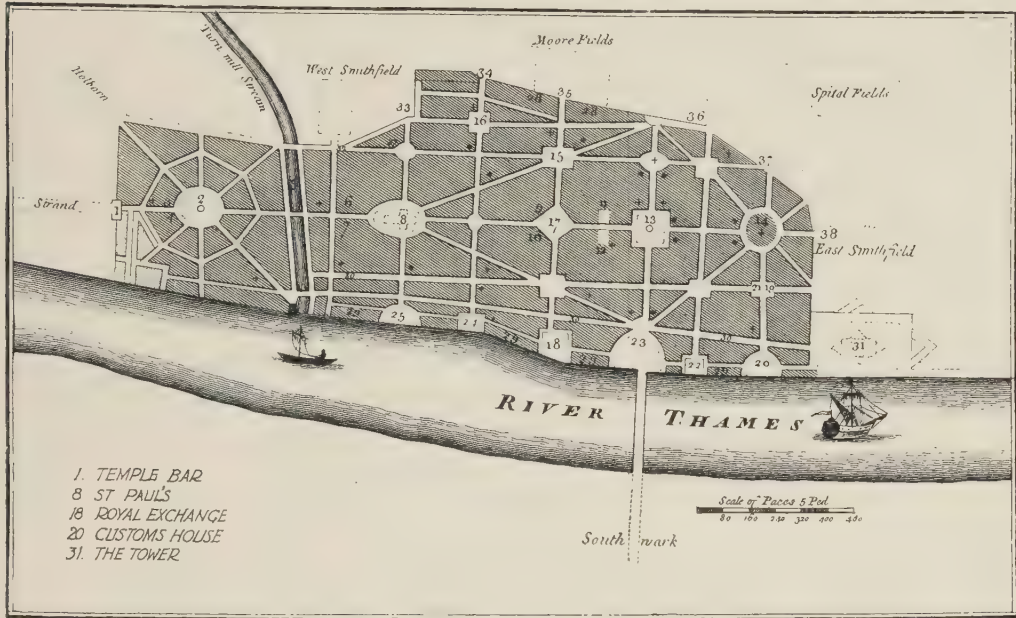


FIG. 54 EVELYN'S PLAN FOR REBUILDING LONDON  
AFTER THE GREAT FIRE, 1666

defective if we view it in the light of convenience. The figure of each separate dwelling-house, being the segment of a circle, must spoil the symmetry of the rooms by contracting them towards the street windows, and leaving a larger sweep in the space behind. If, instead of the areas and iron rails, which seem to be of very little use, there had been a corridor with arcades all round, as in Covent Garden, the appearance of the whole would have been more magnificent and striking: those arcades would have afforded an agreeable covered walk and sheltered the poor chairmen and their carriages from the rain.' He adds that

<sup>1</sup> Horace Walpole makes a similar criticism, declaring that the new buildings look like a collection of little almshouses.



the inhabitants in general make use of well-water, and that even the new part has but 'a precarious and scanty supply from the hill; which is collected in an open basin in the Circus, liable to be defiled with dead dogs, cats, rats, and every species of nastiness which the rascally populace may throw into it'.

Against this view must be set the opinion of his niece that Bath 'is an earthly paradise. The Square, the Circus, and the Parades put you in mind of the sumptuous palaces represented in prints and pictures; and the new buildings, such as Prince's Row, Harlequin's Row, Bladud's Row, and twenty other rows, look like so many enchanted castles raised on hanging terraces.' We may not agree with Matthew Bramble, but, if the present-day inhabitants of our towns had the same power and zest in criticism it would be much to the benefit of modern architecture.

The reconstruction of Bath, as the names John Street and Wood Street remind us, was begun by John Wood, who in the first half of the century laid out Queen's Square (1729) and the North and South Parades (from which his balustrades have now been removed, and which were part of a much bigger scheme). His son laid out the Circus (1764), the Crescent (1769), Brock Street (1765), Alfred Street (1769), and Russel Street (1775). Baldwin carried out Laura Place and Bath Street, after Robert Adam had built the Pulteney Bridge, and prepared a plan for the Bathwick Estate. A contemporary architect, John Strahan, built Kingsmead Square, Bristol, and another, Carr of York (John Wood was a Yorkshireman), planned the Crescent at Buxton.

In 1766 George Square, Edinburgh, a dignified example of planning, was built by a local architect, James Brown, who also built Brown Square and several other streets and places. This was to the south of the 'Old Town', and it was to the south of the town that the migration first took place.

But the greatest scheme of the age was the 'New Town' of Edinburgh, laid out to the north, the plans for which were prepared by James Craig in 1767; for the design of some of the buildings of this scheme Robert Adam was responsible. Ruskin has bitterly condemned the result, using the beauties of the old town to convict the imbecilities of the new. Stevenson, on the other hand, quotes an old skipper's most radiant notion of Paradise as 'The new town of Edinburgh with the wind a matter of a point free'. The truth lies between the two and may be expressed in Stevenson's words: 'It cannot be denied that the

original design was faulty and short-sighted and did not fully profit by the capabilities of the situation. The architect was essentially a town bird, and he laid out the modern city with a view to street scenery, and to street scenery alone. The country did not enter into his plan; he had never lifted his eyes to the hills. If he had so chosen, every street upon the northern slope might have been a noble terrace and commanded an extensive and beautiful view. But the space has been too closely built;

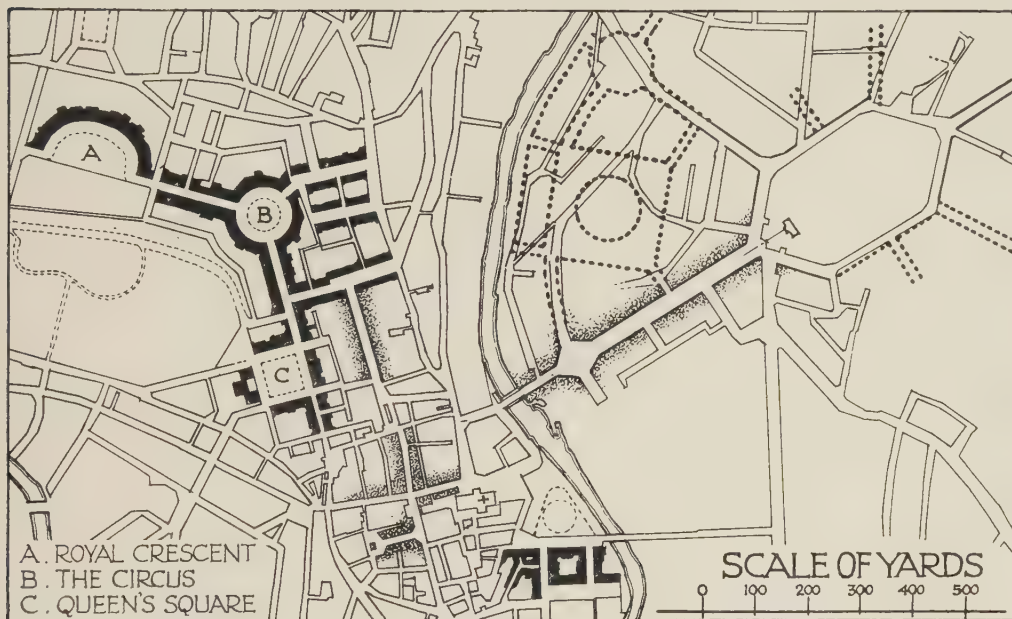


FIG. 55 BATH

Chief work carried out by the Woods (father and son) shown in black (1728-81). Chief work carried out by other architects shown in stipple (1762-95). Part of Robert Adam's scheme for Bathwick Estate shown by dotted line. For General View of Queen's Square see Frontispiece.

many of the houses front the wrong way, intent, like the Man with the Muck Rake, on what is not worth observation, and standing discourteously back-foremost in the ranks; and, in a word, it is too often only from attic windows, or here and there at a crossing, that you can get a look beyond the city upon its diversified surroundings. . . . For the country people to see Edinburgh on her hill-tops is one thing; it is another for the citizen, from the thick of his affairs, to overlook the country. It should be a genial and ameliorating influence in life; it should prompt good thoughts and remind him of Nature's unconcern.'



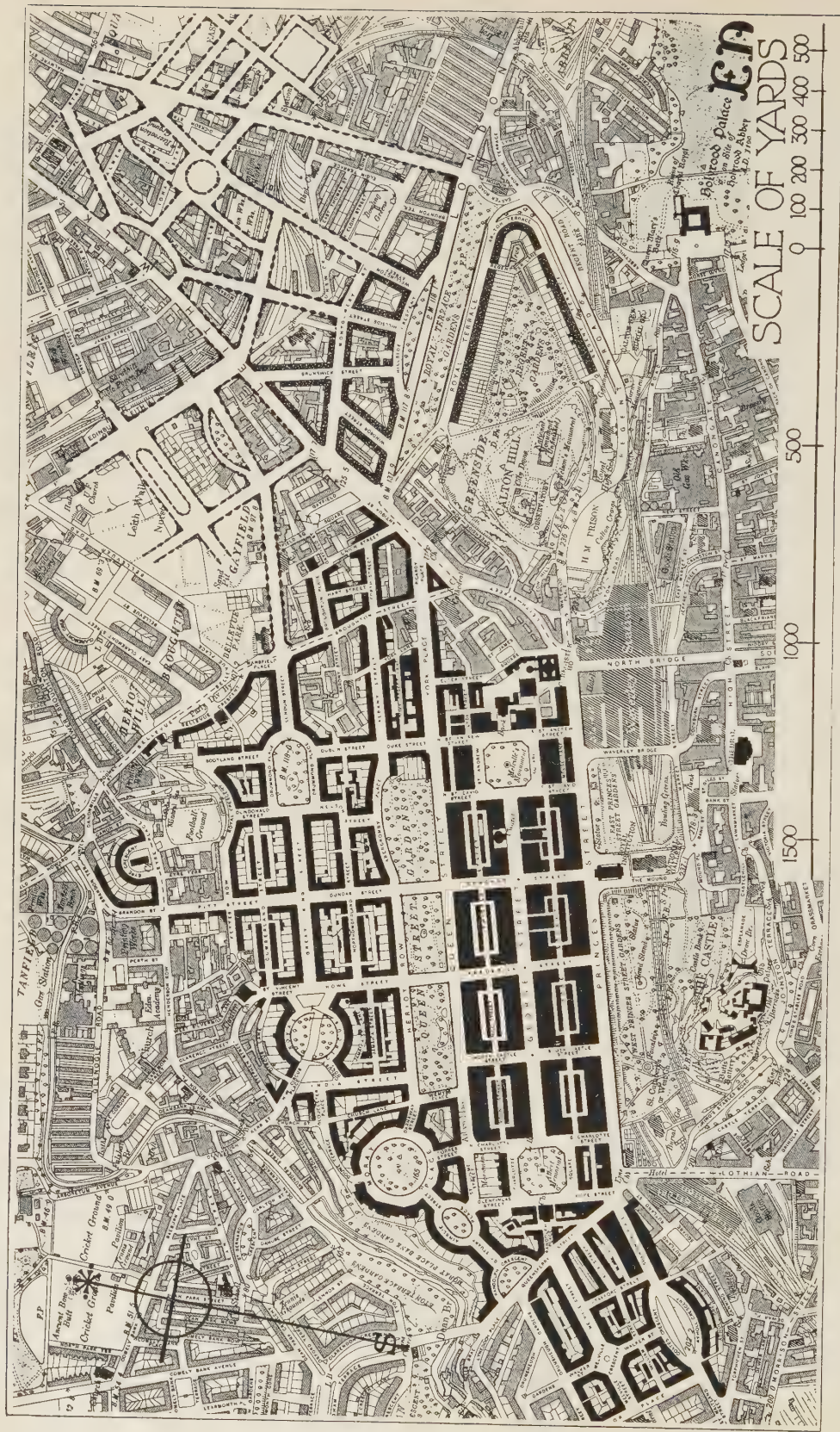


FIG. 56 EDINBURGH

The portion in solid black shows the 'New Town' as planned by Craig in 1767. This was extended slightly to the south-west. The portion tinted grey shows the extension north of the Calton Hill designed by Playfair early in the nineteenth century. The part of the scheme shown by dotted lines was unfortunately not carried out. Adapted from the Ordnance Survey Map, by permission of the Controller of H.M. Stationery Office



But, at least, a garden was ultimately formed in the valley between the old and new towns so that the inhabitants could get a view of it. For

In our towns that prospect gives delight  
Which opens up the country to our sight.

However true the criticism of Stevenson as to the fault of the architect in not taking the full advantage of the fine site, Craig's lay-out has much to commend it. There is no more notable example of planning in Britain than George Street, terminating at the east and west ends respectively with St. Andrew's Square and Charlotte Square, in the centre of each of which is a monument. To the east the terminal vista is provided by the Melville monument with the Royal Bank in the background, and to the west by the beautiful outline of the dome of the church of St. George. Subsequent to Craig's work a competition was instituted for the planning of the area north of the Calton Hill and east of Craig's 'New Town'. This scheme, unfortunately, fell through, though it appears to have been revised in the second quarter of the nineteenth century when a notable Edinburgh architect (Playfair) prepared a scheme (shown in Figure 27) of which the southern portion only was carried out.

In 1771 Oxford cut two broad new approaches to the bridges that give access to it on the east and west.

Early in the nineteenth century one Richard Grainger laid out the central portion of Newcastle-on-Tyne. Restricted in his site (an area of about twelve acres), he did not do for Newcastle what Craig had done in Edinburgh, but he nevertheless produced some effective street architecture.

In his account of the newly laid out districts in west London Mr. Bramble admits improvements. The city is much better paved<sup>1</sup> and lighted than formerly. 'The new streets are spacious, regular, and airy; and the houses generally convenient. The bridge at Blackfriars is a noble monument of taste and public spirit—I wonder how they stumbled upon a work of such magnificence and utility.'

London had begun 'to go out of town' a century before

<sup>1</sup> 'We are informed that Sir John Vanbrugh, in his scheme for new paving the cities of London and Westminster, among other things, proposes a tax on all gentlemen's coaches, to stop all

channels in the streets, and to carry all the water off by drains and common sewers under ground' (*London Journal*, 16th March 1722).

Smollett quoted the Irishman's remark. The Strand, which formed the main outlet to the west, was paved in 1532 when Henry VIII robbed the 'fourteen maidens that were leprous' of their hospital of St. James to build himself a palace on the site. His new-rich nobility followed him and built houses near it; but the regularly planned streets and squares, Pall Mall, Leicester Square, and St. James's, were not laid out till the next century, and were not completed until William III had adopted St. James's Palace as his principal residence.

The squares approached from Holborn, including Soho and Bloomsbury, also belong to the late seventeenth century.

Early in the eighteenth century Oxford Street (then Tyburn Road) was paved and the squares on either side of it were laid out—Hanover Square and Grosvenor Square (1720), Berkeley Square and Cavendish Square (1730), and later on, these due to the activities of the brothers Adam, Manchester Square (1774), Portland Place (1778), Fitzroy Square (1790). The brothers also planned the Adelphi, with Mansfield Street and Queen Anne Street, in 1770, and were charged with encroaching upon the river bank so that a skit of the time declared:

Four Scotchmen of the name of Adams  
Who keep their coaches and their madams,  
(Quoth John in sulky mood to Thomas)  
Have stole the very river from us.

A little later James Paine laid out Salisbury Street, Strand—he is best known as the builder of Richmond, Chertsey, and Walton bridges.

What is now New Oxford Street was in the eighteenth century a narrow and tortuous lane through the Rookery of St. Giles, where, as in modern Brentford, 'the throng stopped up the ways'.<sup>1</sup> A new road to the west was therefore cut in the middle of the eighteenth century running from Moorgate via the Angel to Marylebone. City Road, the eastern end, so named by its designer, Dingley, was opened in 1761; the western part, opened in 1758, was called New Road and is now Pentonville Road, Euston Road, and Marylebone Road. This road provided a new route for coaches.

<sup>1</sup> It remained so until 1847, when the present thoroughfare was made at a cost of £300,000; the remainder of the Rookery was demolished in 1849, when a survey showed that 2,850 persons were inhabiting 95 houses packed upon one acre of ground. Real rookeries are more sanitary.

The influence of coaching is also to be seen in the widening of the approaches to many provincial towns. At Abingdon, for example, a long street laid out along the line of the Ock was widened about 1700 to form a western approach on which several posting houses were situated.

It is perhaps national prejudice that makes Smollett refer to Glasgow, where, since he had served his apprenticeship there in 1738, the inhabitants had been ' beautifying their town with new streets, squares, and churches ', as one of the prettiest towns in Europe. ' The streets are straight, open, airy, and well paved ; and the houses lofty, and well built of hewn stone.' But the great development of Glasgow belongs to the modern period.<sup>1</sup>

Early in the nineteenth century the Regent's Park district was laid out by Nash, who designed, amongst other streets and terraces, Albany Street and Park Crescent. Nash, in his time, was responsible for much of the town improvement spirit in London. In 1813 he carried out Regent Street. Old pictures have made us familiar with the fine curves of the colonnade which he planned to the Quadrant, extending to the full width of the pavement. The colonnade has long since disappeared and the buildings generally have been much altered. The County Fire Office with its open arches still remains, however, as Nash originally designed it.

At the end of the eighteenth and beginning of the nineteenth centuries many towns appear to have had some minor schemes for town improvements. In the north-west Tremadoc laid out an attractive town square, and in the south-east Worthing produced a small but interesting scheme in its residential quarter. The chief activity seems to have been at seaside resorts. Weymouth developed during the reign of George III, and later Decimus Burton (the architect of the screen at Hyde Park) carried out work at Brighton, Dover, Hastings, and elsewhere. His most noteworthy work is perhaps that at Tunbridge Wells, 1828-48. Bournemouth shows evidence of premeditated street-planning, and the sea front of Ramsgate is yet another example of careful design.

Yet once more the movement was short-lived ; the Industrial Revolution has much to answer for by its policy of *laissez-faire*.

<sup>1</sup> An Act for the Improvement of Glasgow was passed in 1866 when the Lord Provost gave evidence that ' The population had long been living huddled

together in masses—50,000 people being crowded into eighty acres '. See Miss Octavia Hill on the Artisans' Dwellings Bill in *Homes of the London Poor*.



The procedure was always the same: as each coalfield was developed speculators bought up the road frontages in the vicinity; factories were dumped down on the roadside, and jerry-built cottages were run up near them, stretching in endless monotony along both sides of the road. As more were needed they were built back to back behind the first row, facing upon a parallel narrow street. There was no adequate plan—the builder was his own architect, for the houses had no more design than rabbit-hutches, and the only consideration kept in view was how to crowd the largest possible number of dwellings upon the given site. If any one had suggested that trees and grass should be spared and included in the scheme, that gardens should be provided, that the aspect of the houses should not be determined solely by the direction of the road frontage, that a site to leeward of a factory chimney or a skin yard was likely to be neither pleasant nor healthful to dwell on, that the monotony of long straight streets might be relieved by breaking the level of house frontages and varying the roof lines, that, since families vary in size, houses should do so too, that finally, the segregation of rich and poor aggravated the perils of both—he would have been met by the immortal retort of Mr. Bounderby: ‘I know the bricks of this town, and I know the works of this town, and I know the chimneys of this town, and I know the smoke of this town, and I know the Hands of this town, I know ’em all pretty well. They’re real. When a man tells me anything about imaginative qualities, I always tell that man, whoever he is, that I know what he means. He means turtle soup and venison, with a gold spoon, and that he wants to be set up with a coach and six.’

Dickens’s picture of Coketown in *Hard Times* would serve as a faithful description of hundreds of North-country towns. Just as in it there were ‘several large streets all very like one another, and many small streets still more like one another, inhabited by people equally like one another . . . and the jail might have been the infirmary, the town hall might have been either, or both, or anything else, for anything that appeared to the contrary in the graces of their construction’, so Coketown itself might have been Oldham or Wigan or Bradford or Rotherham or any one of a thousand other industrial centres. With a cynicism that might have staggered Swift the wretchedest streets in these dismal dwelling places are commonly distinguished by such names as Paradise Square, Pensons Gardens, Magdalen

Prospect ; two of the dreariest streets in all the dreary Potteries are called respectively Pleasant Street and Greeting Street.

The coming of railways aggravated these horrors, not only by increasing the speed and the carelessness of unregulated growth, but by enabling the rich to escape from the abomination of desolation which they had created. The mediaeval merchant was obliged to live among those who made money for him, and had therefore some personal interest in making his town at least fit to dwell in. But not even the pawnbrokers could live in Oldham : they bought themselves dormitories ten miles down the line.

Moreover the development of agricultural land into building sites largely increased the stipends of the clergy. Thus the only voice that might have made effective protest was silenced. Lord Ashley notes in the Diary that records his efforts to awaken the conscience of England to the miseries of child-life in the industrial areas, ' In very few instances did any mill-owner appear on the platform with me ; in still fewer the representatives of any religious denomination '.

It is often suggested that if industrialism was ugly it was at least sanitary—as the materialist understands the word. This belief will not stand much examination. Mrs. Sturge Gretton in her *Burford Past and Present* records that in the middle of the nineteenth century ' uncovered drains from the houses flowed down Burford streets ; and men now living tell of their delight as children, when upon certain days the brewery refuse, including broken bottles and corks, came careering down the High Street '. By 1871 ' two glazed pipes had then been laid in the High Street, but few of the houses are connected with these and the pipes themselves drain into the river ; at Swinbrook the village is at the same time draining into the river and taking drinking water from it '. She recalls, too, that in London until after the cholera outbreak of 1861 the Thames was the great sewer of the city ; and that in Cheapside ' holes in the roadway were so many and deep that Mr. Walter Gilbey taking a Shetland pony to Sussex in the sixties had to convey it across London in a cab to prevent its legs from being broken '.

So Miss Octavia Hill's *Homes of the London Poor* makes it clear that overcrowding in London and Glasgow had gone from bad to worse. ' We perpetually find in crowded parts of London blocks of houses built after this fashion : we have, first of all,

a square of larger houses facing four streets. These once had gardens, yards, or spaces at the back ; but as land became more valuable these have been built over, usually with much lower houses, to which access is gained by a narrow passage from one or more of the thoroughfares, sometimes open to the sky, sometimes a mere tunnel under the house.' In Glasgow 'the unhealthiness and overcrowding must, I think, have been even worse than in London. The " wynds ", as they call them there, were at least as narrow as the London courts. Like them, they were often blocked up at one end, so as completely to stop the free passage of air. But I saw there what I have seldom or never seen in London—a perfect honeycomb or maze of buildings, where, to reach the " wynd " furthest from the street, one had to pass under archway after archway built under the houses, and leading from one squalid court into another. . . . The houses, too, were higher than is usual in London alleys, and the darkness and obscurity consequently greater. . . . Here and there, running up between house and house, were narrow crevices, from six to twelve inches wide, and from these the back rooms in some houses drew their only light. . . . They represented spaces once occupied by garden walls. . . . When the habits of the people were dirty, and they threw things out of the windows, these " dreepings ", being far too narrow to be cleansed in any way, became receptacles where every kind of fever-breeding substance must gradually have decayed, carrying disease in every breath of air '. In such an environment thousands now living were born.

Well might Ruskin ' wonder what the angelic builders and surveyors—the angelic builders who build the many mansions up above there ; and the angelic surveyors who measure that four-square city with their measuring reeds—wonder what they think, or are supposed to think, of the laying out of grounds by this nation, which has set itself, as it seems, literally to accomplish, word for word, or rather fact for fact, in the persons of these poor whom its Master left to represent Him, what that Master said of Himself—that foxes and birds had homes, but He had none.'



### III

## The Modern Movement

‘I should like to add to the Litany a new petition : For all inhabitants of great towns, and especially for all such as live in any sordid substitute for home which need or foolishness may have contrived.’—GEORGE GISSING.

**E**VEN amid the blind scramble of the industrial revolution there were men of vision whose counsel might have saved our cities if it had been heeded. Robert Owen, for example, realized how

Ill fares the land, to hastening ills a prey,  
Where wealth accumulates and men decay ;

he foresaw the time when drink would be the shortest way out of Manchester, when men who never saw the sky would cease to believe in heaven and would have no share in the earth until they were put under it. He therefore urged the foundation of village communities as the antidote to these evils ; and one such was actually begun at Orbiston near Motherwell in 1820. A little later Feargus O'Connor formed a ‘National Land Company’, bought a farm of 300 acres near Minster Lovel in Oxfordshire, laid it out in small holdings, and settled upon them eighty-one north country mechanics. The settlement, still called Charterville on the map, is laid out, like Eynsham New Borough, in rectangular plots on either side of its two main roads.

But practice and precept were alike unavailing. We were found quite unprepared for the unprecedented growth of towns and town life, and England proceeded to destroy herself by her efforts and Europe by her example. This chapter is a brief account of what was done by various nations to remedy the evil when conscience once more awoke in the latter part of the century, as well as of the new towns that were planned on virgin soil.

Sweden, of all the ‘progressive’ nations, suffered least in the slum-making age. Since the beginning of the seventeenth century she has been laying out towns upon considered plans,



FIG. 57 PARIS  
Place de la Concorde, from the air



and she was the first to realize the necessity for legislation ensuring national control of town-planning.<sup>1</sup> A beginning was made in 1734, but the rapid growth of her cities led in 1874 to the passing of the far-

seeing and far-reaching 'Building Law for Towns', which set an example that all civilized nations have since begun to follow. It provides (Section 9) that 'For every town there shall be prepared a plan for the regulation of its general arrangements and of the buildings within it. The plan shall regulate not only the buildings but the streets, the markets, and other public places. No building must take place which contravenes the arrangements of the prepared plan, nor shall a town

be extended into an area for which no building plan has been prepared', as to which 'there shall be pre-

<sup>1</sup> Sweden was also the first to compile vital statistics, her records of census enumerations and mortality being continuous since 1750. When our own government in 1753 introduced a bill in imitation a member of the opposition declared that he 'did not believe that there was any set of men, or, indeed, any

individual of the human species so presumptuous and so abandoned as to make the proposal we have just heard', and denounced the project as 'totally subversive of the last remains of English liberty'. Another 'feared lest some public misfortune or an epidemical distemper should follow the numbering'.

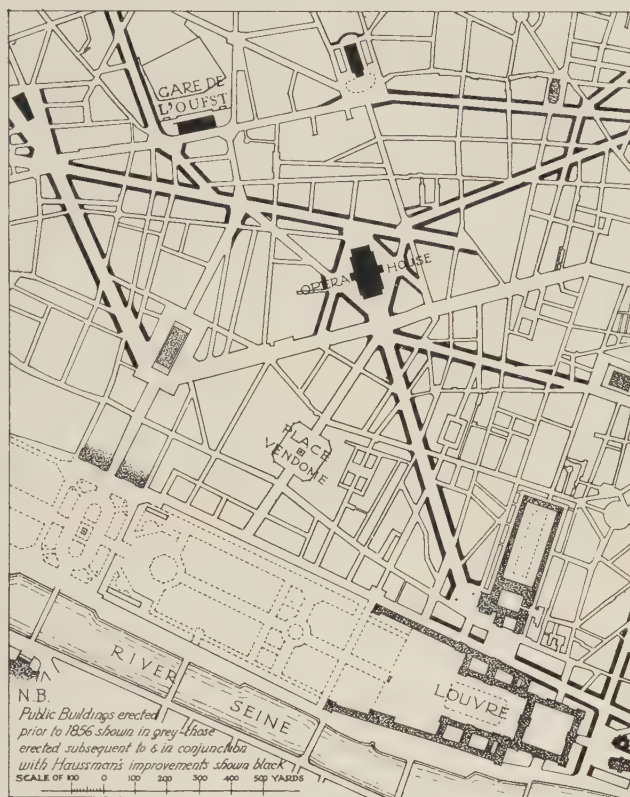


FIG. 58 PARIS

Plan of a part of the city of Paris showing the improvements carried out by the Baron Haussmann. The thickened lines show the new streets, street widenings, and other improvements carried out in Haussmann's work of reconstruction.



intended to incorporate in the town'. Further, 'The town plan must ensure as far as possible that the requirements of traffic, in respect of ample space and convenience, shall be supplied; that the light and air needed for health shall be provided, that the danger from fire shall be guarded against, that there shall be open spaces, and the variety of construction and the beauty necessary for aesthetic reasons. . . . Wide promenades or boulevards, with shrubberies in the middle and roadways on each side, or with other suitable arrangements, shall traverse the town, if possible in various places and in different directions'. It is also wisely enacted that 'When a new plan is prepared, or an existing plan is altered, for the regulation of one or more districts of a town, regard must at the same time be had to the future regulation of other town districts which may possibly come into existence, so that a harmonious arrangement of the whole town may be obtained'. The carrying out of development schemes under this Act was aided by a law of 1907 dealing with the difficult question of compulsory purchase and the compensation of private landowners.

Until the end of the nineteenth century Swedish town-planning designs were generally of the gridiron type; but the folly of such a plan on sites of varied surface has been realized, and in later schemes the lay-out has been arranged according to the contour lines of the site.

France's main contribution to the art of town-planning has been the lesson of spaciousness and dignity in the laying out of streets. The French were the first people to show the modern world how a tangle of mediaeval lanes could be remodelled on a comprehensive plan of broad and handsome thoroughfares linked together at numerous focal points and skilfully arranged to provide vistas to the chief buildings and monuments. This was achieved in Paris when in 1853 Haussmann, under Napoleon III, conceived the plan of reconstruction which has made Paris the most beautiful of the great cities of the world. As early as the reign of Louis XIV the stamp of monumental planning had been fixed on Paris. By the end of the eighteenth century the axial lines of the Tuileries, the Place de la Concorde, the École Militaire, the Luxembourg, and Les Invalides were established. In 1790 the architect Verniquet prepared a plan for the beautifying of Paris, and a little later the National Convention ordered the 'Plan des Artistes' for the execution of

work based on Verniquet's plan. Napoleon I formed sixty new streets, including the Rue de la Paix and the western portion of the Rue de Rivoli, and erected many notable monuments. The ground was thus prepared for Haussmann. His gigantic scheme included numerous projects, amongst which—to take but a few—may be mentioned the Boulevards Sébastopol and de Strasbourg, connecting the heart of the city with the Gare de l'Est (railways having then been introduced); the Place de la République and the Rue Voltaire connecting it with the existing Place de la Nation; the Boulevards St. Michel, St. Germain, Malesherbes, and Haussmann; the Boulevard Henri IV so drawn that the dome of the Panthéon forms a vista to one end and the Colonne de Juillet in the Place de la Bastille to the other; the Place and Avenue de l'Opéra with the Rue du Quatre-Septembre laid out to balance the existing Rue de la Paix; and the development of the magnificent Place de l'Étoile. Haussmann was also responsible for the laying out of town parks, such as the Parc Monceaux and Parc des Buttes Chaumont, which are effectively opened out by the roads running round and through them. The ultimate cost was nearly £50,000,000, ten times the sum it was originally proposed to expend: but there is no question that the outlay has proved a good investment to all Parisians.

To maintain unimpaired their fine lay-out, and to improve upon it where possible as time goes on, Paris has in force regulations by which all possible future developments are drawn on a plan of the city, and no extensive building or rebuilding may be carried out on those areas which may be required in the future for streets, open spaces, or other municipal improvements.

Prior to August 1914 the French Government had also passed a law making it obligatory for every town with a population exceeding 10,000 to prepare a plan for its improvement and future extension; this has recently been supplemented by an act providing that every town or village destroyed or partly destroyed by earthquake, fire, or any act of the war must similarly prepare a plan before any reconstruction may take place. Reims is one of the first places for which a town-plan in accordance with the act has been prepared.

Paris, in common with other ancient towns of Europe, and particularly Vienna, has by the wise and skilful conversion of fortifications into boulevards, obtained open belts which, especially when linked up with parks and other open spaces, add

enormously to the beauty and healthfulness of the city as well as to the facilities for the circulation of traffic. A competition was recently instituted, open to all allied countries, to obtain the best plans for laying out the ground covered by the now obsolete outer defences of Paris. The value of the concentric rings of fortification in breaking the stereotyped rectilinear pattern is, of course, of great aesthetic importance.

To Germany must be given the credit of having founded one of the first 'Industrial Garden Suburbs', when in 1856 Krupps laid out at Essen a working men's colony; the first garden city proper, Dresden, however, was not built until 1909.

The Germans have paid great attention to the subject of town-planning. Their early schemes, as in the eighteenth century when Karlsruhe was laid out in imitation of Le Nôtre's garden plans, were influenced by French methods, and many towns were re-planned on the broad formal lines of Haussmann's Paris streets. But in 1889 Camillo Sitte published his *Der Städtebau*, a book which attracted much attention to its subject and brought about a reaction in favour of national models of mediaeval times and the abandonment of rigidly formal plans. Where the irregularities of the street plan are conditioned by the contours of the land the results are admirable; but in some examples there is a forced striving after the consciously picturesque.

Another early mistake was the unnecessary provision of wide streets in all parts of the towns; this, where land was costly, led to a great increase in the height of the buildings and to the construction of tenement houses in the industrial quarters, often with inadequate accommodation, so increasing the evils of congestion which it was intended to cure. And, by making the spaces between the streets too great, back-buildings have been encouraged in the deep plots.

Nevertheless the Germans have devoted much thought and money to the problems of industrial housing. They early discovered an essential condition of success in town-planning schemes: that the city itself must own the land necessary for its development and improvement. Most German cities own considerable areas both within and without its boundaries. The city of Ulm owns 80 per cent. of the land in the city and its immediate suburbs, and the authorities are thus enabled to keep



down the price of land, and to avoid the evils of overcrowding. Moreover German law allows the municipality to exact the unearned increment tax. This is imposed upon both the profit realized from the sale of the land and upon the increase in value of the land which remains in the possession of the same owner.

Another interesting and important regulation in German town-planning is that of 'Zones', whereby a town is divided

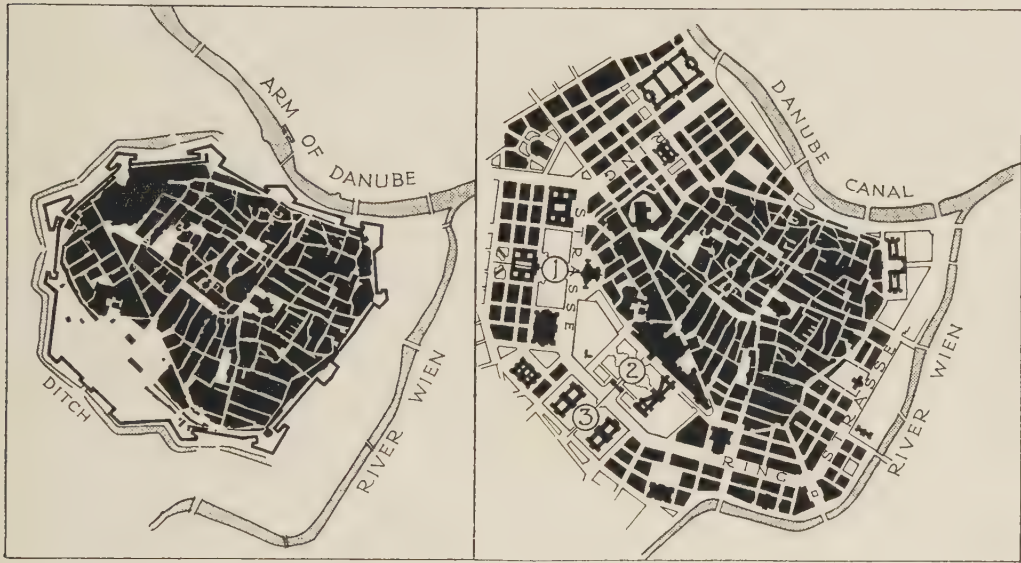


FIG. 59 VIENNA

On the left the inner city before the removal of the fortifications (1857). On the right the inner city after removal of the fortifications (1887). (1) The Town Hall, Houses of Parliament, and University; (2) the Imperial Palace; (3) Museums of Natural History and Fine Arts

into belts or areas, in each of which both the type and arrangement of the buildings vary, as a general rule, according to the distance from the centre, so that the air from the open country may circulate freely through the city.

The ideals of German town-planning are well seen in the requirements stated in the problems set in the Competition for the 'Greater Berlin' plans, which include those of street traffic, transport and rapid transit, open spaces and public parks, housing, and the effective placing of public buildings in relation to their surroundings. This last problem has been successfully solved in many German cities where public buildings are

commonly grouped in a most effective manner, as for instance in the Königsplatz, Munich.

The care taken in the placing of German railway stations and often in their design is a noteworthy feature. The endeavour is made to plan these with fine open spaces in front of them, e. g.

the Bahnhofplatz, Hanover, and in such positions as will convey by the long avenues leading up to them a fine impression to all those entering the city by rail.

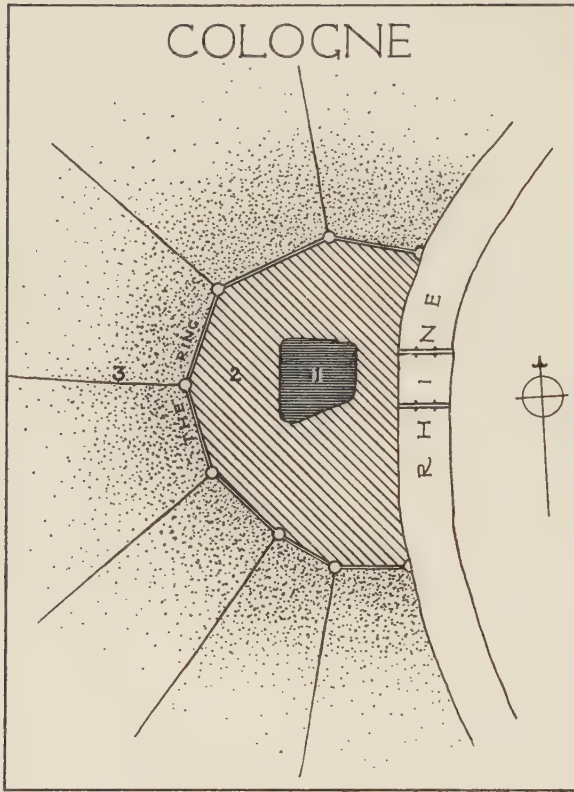


FIG. 60 (1) Shows the area of the Roman city. (2) Shows the area of the mediaeval city. In 1888 the outer city wall was pulled down and the fine boulevard—'The Ring'—built in its place. Beyond the Ring the modern city extension (3) has developed according to a well-arranged plan along the main arterial lines.

In Italy an Act of 1865 empowered communes having a population of not less than 10,000 people to prepare town-planning schemes covering all probable reconstructions or extensions of their area. When such a scheme has been made and approved, all projects for rebuilding unhealthy areas, improving traffic lines, or developing new sites, must be planned in accordance with it. The Act also provides for the compulsory acquisition of land necessary to the success of any scheme and for the fixing by qualified assessors of the amount of compensation to be

awarded to private owners so that no selfish interests may stand in the way.

Town-planning in America may be said to have begun with William Penn's foundation of Philadelphia at the end of the seventeenth century. His city was of the rigid chess-board type: two main streets crossed one another at right angles, and

at their intersection a square was laid out as a site for the city hall; four other open spaces or squares were planned, and the rest of the town was divided by straight streets into rectangular blocks of approximately equal size. The gridiron plan thus imported set the type for most American cities until quite recent times.

It was modified in L'Enfant's able plan of Washington in 1792 by the addition of eight diagonal avenues all converging on the Capitol, the centre of the city. A similar but still further improved plan, never carried out, was prepared for the rebuilding of Detroit after its destruction by fire in 1805; but Manhattan (1807-11) argued that 'a city must be composed

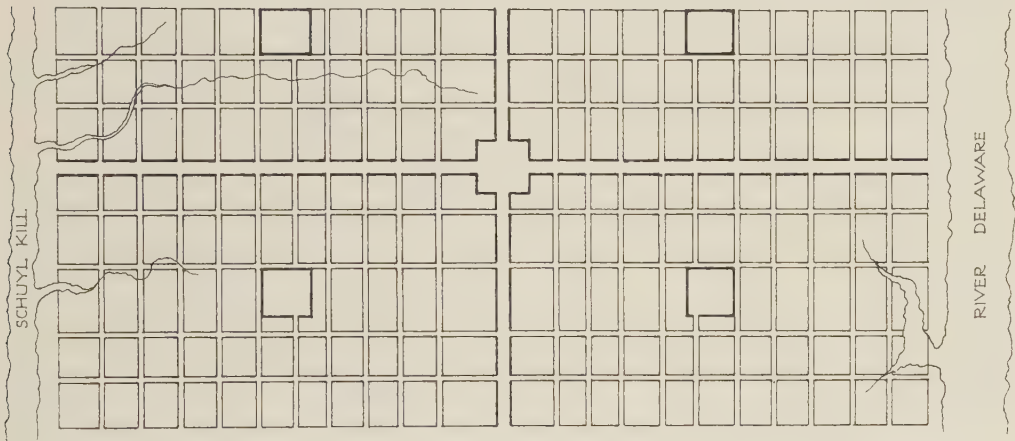


FIG. 61 The plan drawn by William Penn in the seventeenth century for the new town of Philadelphia

principally of the habitations of men, and that straight sided and right angled houses are the most cheap to build and the most convenient to live in'. It is by no means essential that for 'right angled houses' the city plan should be of gridiron form, but Manhattan, followed by most other new towns, reverted to the conventional type, the defects of which, on many sites, are nowadays being remedied at great expense. It is only necessary to glance at a set of plans of American cities to realize the extraordinary tenacity of the gridiron plan covering town and suburb alike and to picture its monotony.

In 1869 the 'garden city' movement in America began with the laying out on Long Island of a residential area for New York, the proprietorship of which, however, remained in the hands of the founder.



Since that date a few more garden cities and an increasing number of industrial villages have been planned.

America's chief contribution to modern town-planning has undoubtedly been the conception of a fine 'architectural backbone' to her city plans in the form of definite 'civic centres' laid out on noble lines. The value of monumental planning and the proper grouping of buildings and their accessories all co-ordinated to produce a unified whole was demonstrated in 1893 by a Chicago architect, the late Mr. D. H. Burnham, at the World's Colombian Exposition, which inspired most of the great American communities to undertake schemes for beautifying their cities and especially for the provision of fine civic centres.

The successful realization of these schemes—at Washington, Chicago, Cleveland, Pittsburg, and Philadelphia, to mention but a few—has been largely due to the establishment of Civic Associations in the great cities to care for their beauty and amenities and to interest the citizens in these things. The Associations, it may be observed, are not statutory; but they are far more virile than their counterparts in any other country of the world, though credit must be given to Manchester for the good work of its Citizens' Association. It is interesting further to note that in America town-planning legislation is largely local: the municipal authorities not only prepare and modify their own schemes but have power to raise the necessary money and to expend it according to their own plans.

Washington may be mentioned as an example of the thoroughness with which civic improvements are undertaken and carried through. The original plan had suffered considerably from alterations and extensions for which no provision had been made. By a resolution of the Senate in 1901 four experts were selected to prepare a city plan: D. H. Burnham (architect), Chas. F. McKim (architect), A. Saint Gaudens (sculptor), and F. Law Olmstead, junior (landscape architect), all of whom had been connected with the Chicago Exposition of 1893. They proposed a return to the original plan of 1792 with the incorporation of extensions so as to include in it the enlarged city and the removal of excrescences such as the railway in the Mall. A splendid new station was also planned, so placed as to provide a worthy entrance to the city.

For a time the scheme hung fire, but in 1910 an Act was passed creating a Commission of Fine Arts charged with the



FIG. 62 WASHINGTON

General View showing the city as it will be when completed according to the plan of the Commission of 1901

' This plan shows the central composition. On the main axis is the Capitol at the right, surrounded by buildings having relation to legislative purposes. The main axis extends to the Washington Monument (centre), thence to the Lincoln Memorial, which terminates the main axis. The cross axis is formed by the White House, the Washington Monument, and a group of buildings still to be built and named. The water on the right extending up into the picture is the Anacostia River, or eastern branch of the Potomac, which is being developed into a great water park for pleasure boating. On the left the driveway from the Lincoln Memorial reaches the mouth of Rock Creek, and passes up that stream to Rock Creek Park, an area of 1,632 acres, heavily wooded, and devoted to park purposes. From the Lincoln Memorial a bridge is to cross to the National Cemetery at Arlington.'



supervision of all building designs, parks, open spaces, water-supply, roads, and traffic, and particularly, with the maintenance of the 1901 plan. One of the first acts of the commission was to arrange the site of the Lincoln monument with the beautiful reflecting pool in front extending almost to the Washington obelisk, thus preserving the main axis of the Mall and Potomac Park.

The Chicago proposals are perhaps the most notable example of the bigness of American town-planning schemes. Whole thoroughfares are to be widened and new diagonal streets to be laid out to remedy the defects of the existing chess-board plan. Railway terminals are to be simplified, and the transit of freight reorganized. New parks are to be created, the lake front to be developed, a magnificent new boulevard to be provided and, central to the boulevard, a fine new civic centre has been planned. This scheme for civic improvement was evolved by W. H. Burnham and E. H. Bennett in consultation with fifteen business men of the city; the committee held meetings, attended by various experts and influential citizens, for the exchange of views; the plan has been exhibited in the picture-houses, demonstrated in the schools, and explained in public lectures. Though it will take many years and many million dollars to complete, Chicago is determined that ultimately the city shall be one of which all America may justly be proud.

Though the special attention paid to the remodelling of civic centres and the placing and character of public buildings is perhaps the most notable feature of modern American planning—in which, however, something is due to the influence of France—the Americans have done noteworthy work in the provision of recreation centres, with results markedly beneficial to the younger generation. The study of this city problem has been most thorough, as also has that of linking up recreation centres, open spaces, and parks—both the small local park and the large natural reserve—into one connected system. The combined population of St. Louis, Boston, and Baltimore equals that of Liverpool, Birmingham, and Sheffield, yet of the total area of the three former cities combined 11 per cent. is devoted to parks (St. Louis 7 per cent., Boston 13 per cent., Baltimore 12 per cent.), whilst that of the three British cities is 4 per cent. (Liverpool 6 per cent., Birmingham 3 per cent., Sheffield 3 per cent.)!

In Britain the first stirring of the national conscience against



slums, squalor, and soul-destroying surroundings dates from the middle of the nineteenth century. In 1848 the first Public Health Act was passed empowering different localities to establish local Boards of Health. This was followed by the Public

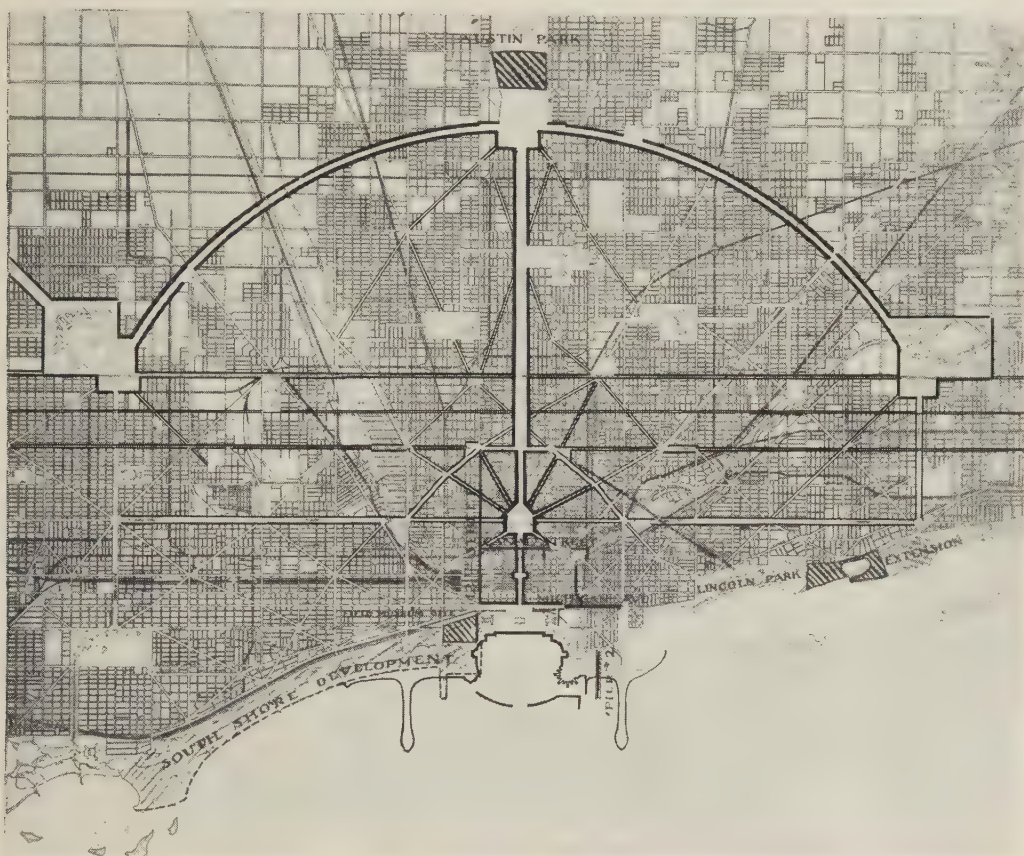


FIG. 63 CHICAGO

Plan showing the proposed developments and improvements, of which some of the more important are indicated by thickened line. The main points in the scheme are the perfection of the existing street systems, the simplification of the railway system, and the provision of parks, playgrounds, and forest preserves. The cost of the small portion of the work now completed or in hand is 90,000,000 dollars.

Health Acts of 1872 and 1875, the latter a great achievement at the time, giving powers to the local authorities to make by-laws regulating the construction and width of streets, the amount of air space round buildings, the construction of the buildings themselves, sanitation, and also the closing of houses which were not fit for human habitation.

It was followed in the next year by the first English 'garden suburb', Bedford Park, laid out, for a private company, mainly by the late Norman Shaw.

The next notable scheme was the foundation of Port Sunlight, perhaps suggested by an earlier, almost forgotten, project of Sir Titus Salt, who in 1851 had moved his factory from Bradford to an open healthy spot on the banks of the Aire, and had founded there an 'industrial village' named after him 'Saltaire'. In 1888 Mr. W. H. Lever (now Lord Leverhulme), having found the site of his works at Warrington too small for their expansion, moved to a new one on the west bank of the Mersey some three miles south of Birkenhead. Here he decided to build also a colony for his workpeople, and he reserved 32 acres for a residential area, building his new works on the remaining 24 of the 56 he had purchased. The settlement is thus essentially industrial: it has been built for workmen out of the profits they have themselves helped to create, and its houses are let to them at such rents as merely cover upkeep and repair. It is an example of Prosperity Sharing and, as the founder has stated, 'the plan (i. e. of building cottages to be let to labour at low rentals) is most effective in elevating and bettering the conditions of labour, and has the additional advantage of ensuring that the wives and children shall share in it'.

Such has been the growth of the venture that in 1919 the total area of Port Sunlight was 547 acres, 287 occupied by the works and 260 by the village.

The plan, which is illustrated in Figure 64, was controlled in its original lay-out by a series of ravines. These have now for the most part been filled up, and expansion has been provided for on the east side of the Birkenhead-Chester road. The settlement is furnished with a church, schools, public halls, clubs, an auditorium, a technical institute, cottage hospital, library, art gallery and museum, gymnasium, swimming baths, recreation grounds, a new civic centre, and many open spaces, which, like the streets, have been well planted with trees.

Most of the buildings are of the typical Cheshire type, half-timbered. The number of houses to the acre is limited to ten; they are built on deep plots and are so placed as to surround a large open space which is used for allotment gardens and upon which their backs look. The front gardens are attended to by the authorities, a practice that ensures uniformity throughout



# PORT SUNLIGHT CHESHIRE — 1917.

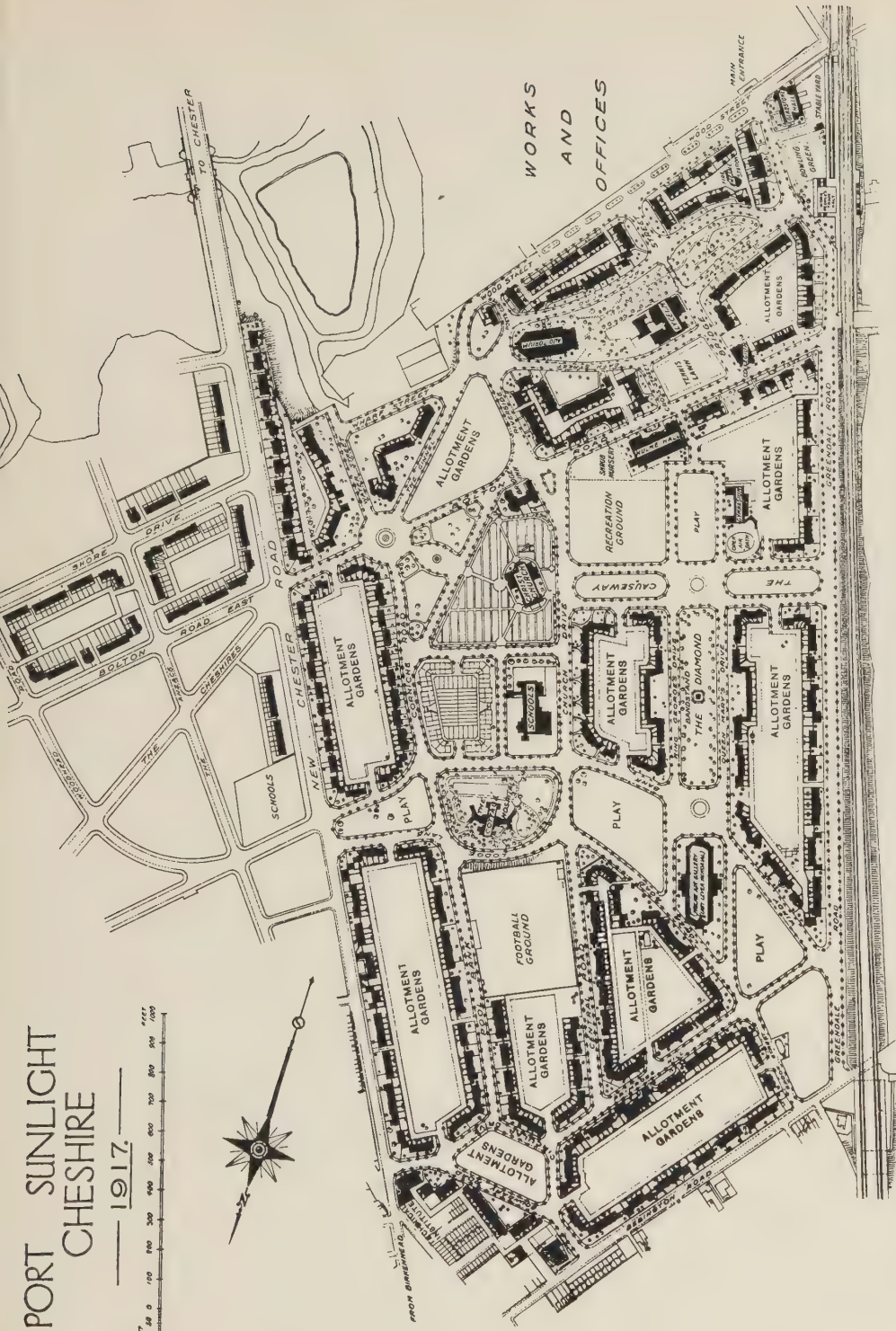
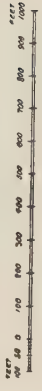


FIG. 64 This village was one of the earliest 'garden villages' in England. When founded by Messrs. Lever Bros. in 1888 the works and offices occupied 24 acres and the village 32. In 1919 the total area was 547 acres, of which 260 acres is allotted to the village and village extensions.



the village. In the lay-out of a street (Greendale Road) which runs alongside the railway, care has been taken that the backs of the houses shall not be exposed : the houses have been planned on the far side of the street only and a screen of trees has been planted on the railway side.

The population of Port Sunlight in 1917 was 4,600 ; the death-rate is 9·7 per 1,000, compared with the Registrar General's rate of 14·3 for the whole county. It is worthy of note that the workmen's children in Port Sunlight schools have been pronounced by the medical authorities to be both heavier and taller than those of the same class in the Liverpool schools.

The Bournville suburb of Birmingham was more purely philanthropic in its origin but has also been successful financially. Its founder, Mr. George Cadbury, believed that a plot of ground to cultivate is as necessary to the well-being of the factory-worker as of the countryman, and in laying out his model village he provided a sufficiency of garden ground by arranging that no house should occupy more than one-fourth of the plot upon which it was built. The first cottage was put up in 1879 but the greater part of the building was done from 1895 onwards. The number of houses to the acre is approximately seven, and the average plot allowed to each house is 500 square yards ; one-tenth of the total area was reserved for parks and recreation grounds, and suitable sites were marked out for public buildings. To allow ample space between the houses the building lines were well set back ; the roads are 42 feet wide and are planted with trees ; the houses are set back from the road 20 feet so that the total width from house to house is 82 feet. With wise forethought it was originally intended to macadamize only a narrow strip along the subsidiary roads and to make them of lighter materials so as to reduce the charge on rent for cost of road construction. The local by-laws however did not allow anything so reasonable ; but the wiser legislation of the Housing and Town Planning Act has now made it possible to lay out wide roadways without fully macadamizing them unless and until the demands of traffic make it necessary.

Residence in the village is not limited to the work-people of a particular firm. In 1900 Mr. Cadbury surrendered all interest in the property to Trustees by whom all income is now received and administered. Any profits, after payments for repairs and maintenance, are employed in laying out the estate

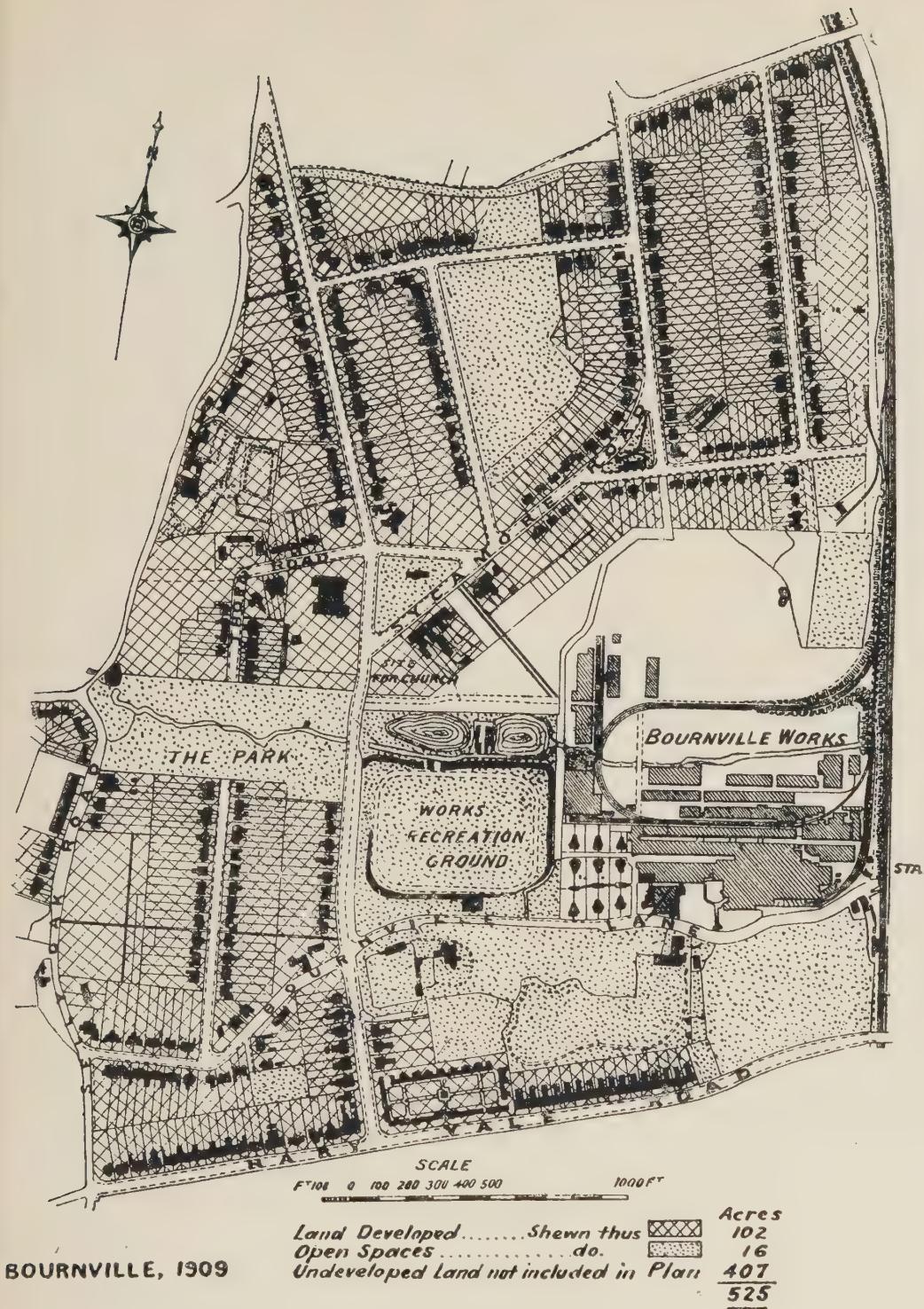


FIG. 65

and in purchasing other sites to be developed in the same way. The area administered by the Bournville Village Trust is now 655 acres.

The following facts are interesting and significant as showing the value of good housing under healthy conditions. The average death-rate in Bournville for five years was 5.5 per 1,000, whilst that of Birmingham was 14.5. Infantile mortality per 1,000 live births in Bournville was 37, in Birmingham 125. Even more instructive is the comparison between the heights and weights of children in Bournville school and those in a slum area (Floodgate Street) of Birmingham.

1. WEIGHT				
Boys.			Girls.	
	Age 6.	Age 12.	Age 6.	Age 12.
Bournville . . .	45 lb.	71.8 lb.	43.5 lb.	74.7 lb.
Floodgate Street .	39 lb.	63.2 lb.	39.4 lb.	65.7 lb.

2. HEIGHT				
	Age 6.	Age 12.	Age 6.	Age 12.
Bournville . . .	44.1 in.	54.8 in.	44.2 in.	56 in.
Floodgate Street .	41.9 in.	52.3 in.	41.7 in.	53.1 in.

The two 'garden village' schemes thus briefly described, though isolated and individual efforts and primarily plans for industrial villages, have been of great value as object lessons in this country.

In 1898 Mr. Ebenezer Howard published his book *To-morrow*—re-issued in 1902 with the title *Garden Cities of To-morrow*—in which he advocated the establishment of a model town having a population of about 32,000, the town to be laid out on the best modern methods to provide healthy homes for all classes, to induce a migratory movement from overcrowded industrial areas to semi-rural districts. The area required for the scheme was 6,000 acres, of which 1,000 only were to be allotted to the town. This was to be of a circular form with the public buildings in the centre and manufactories on the circumference provided with an encircling line of railway sidings, and land beyond this line was to be devoted to agricultural pursuits. Mr. Howard proposed that the scheme should be carried out by private enterprise and not by the State.

The book provoked much interest and discussion. As the result of its theories a Garden City Association was formed, and ultimately the 'First Garden City Limited' purchased in



1903 a site of 3,818 acres at Letchworth, Hertfordshire, land upon which Mr. Howard's scheme, with modifications, was to be carried out.

The plan for the new garden city of Letchworth was prepared by Messrs. Barry Parker and Raymond Unwin. It was designed for 30,000 inhabitants: 1,250 acres were devoted to the town and 2,500 reserved for a rural belt where agricultural pursuits could be carried on, a market for the produce being found in the central town.

As a 'Civic Centre' a town square was planned, to be surrounded by the public buildings and made the focus of the chief roads; the railway station was so placed as to provide a vista of the chief buildings in the 'civic centre' on first entering the town. The erection of the public buildings has been deferred until the town has been fully developed, but the site is wisely reserved.

The streets are planned on spacious lines. A sufficient width of macadam has been laid down for traffic requirements, the remainder of the width being devoted to tree-planted walks and grass. A point of special interest is that industries have removed to Letchworth, attracted by cheap sites near to railway sidings, low rates, cheap water, gas, and electricity, and homes for the workpeople near to the factory. The factories are placed to the east and north-east of the town on each side of the railway and adjacent to the goods station and yards, and, in close proximity to the factories are the well-planned homes for the workers, with their gardens and fine open country close at hand. Whilst Port Sunlight and Bournville were planned each for one industry, Letchworth has provided for many.

Letchworth grew rapidly and in 1912 1,761 buildings, including factories, had been erected and the population was 7,912. It is now (1920) over 10,000. Statistics of the death-rate and infantile mortality have proved how eminently healthy the new 'city' is. The death rate for 1918 was 10 per 1,000, which is approximately the same as that of Port Sunlight.

Like Mr. Howard's ideal city of *To-morrow*, Letchworth is a private undertaking. Inspired by other motives than those of financial speculation the promoters launched their scheme. By the articles of association the dividend on the capital is limited to 5 per cent. cumulative, any profit beyond this to be expended for the benefit of the town and its inhabitants:  $2\frac{1}{2}$  per cent. is

now being paid and the standing of Letchworth city is financially sound. Furthermore it is provided that when the capital, loans, and liabilities of the company are liquidated the inhabitants may, if they so desire, take over the town.

In 1907 the 'garden suburb' of Hampstead was planned by the architects of Letchworth, and an ever-increasing number of 'garden suburbs'—e.g. Gidea Park, Ealing, and Ruislip—and



FIG. 66 LETCHWORTH

General view

several industrial garden villages have since been built. So much for private enterprise.

When we turn to municipal efforts, since the middle of the nineteenth century Borough and Urban District Councils in this country have had moderate authority under the Public Health Acts<sup>1</sup> to regulate streets, the spaces about buildings, building lines, &c., and have had also powers as to the provision of parks and the erection of public buildings such as museums, libraries, markets, baths, &c., and houses for the poorer citizens. When

<sup>1</sup> See p. 109.





FIGS. 68 and 69  
VIEWS IN LETCHWORTH



they passed outside the powers conferred by these Acts to wider schemes of town-planning, *ad hoc* reference to Parliament and all the expense of private Acts became necessary. By this procedure Glasgow (1865-75) had remodelled the central portion of her city, forming 27 new streets and widening and improving 24 others; Birmingham had 'cleansed' her city when, in 1875, 43 acres in the centre were bought and the surrounding 50 acres improved at an estimated cost of £3,000,000; Liverpool, by an Act of 1908, had had the foresight to acquire special powers to compel landowners to submit a scheme for the whole area which they were about to develop, and to prescribe any width of street or distance between building lines, provided always that compensation was paid for land required beyond a certain width, thus being able to make good provision for future development; London had built the Thames Embankment and Kingsway and founded a commission to deal with the traffic question: nevertheless very little real town-planning has been attempted, as yet, in this country. It may be fairly said that in Great Britain the word 'town-planning' up to the present time has been restricted primarily to the question of congested areas and housing problems.

An isolated example of an effort to form a 'civic centre' is found in Cardiff. The Marquis of Bute having given Cathays Park to the city, a site was reserved for the chief public buildings. The first buildings erected—the Law Courts and City Hall—showed considerable dignity, but unfortunately in the placing of the more recent buildings the full possibilities of the opportunity have not been realized. Still, Cardiff has at least given the nation a lead.

Mr. John Burns's Town-planning Act of 1909 marks an epoch in the opportunity which it offers. The essential features of it are as follows:

Town-planning schemes may be prepared throughout the country placing under control of the local authority the development of its district by the preparation and enforcement of a town-plan.

Town-planning schemes are to be prepared with the general object of securing proper sanitary conditions, amenity, and convenience in connexion with the laying out and use of the land and any neighbouring lands.

Under its provisions schemes prepared by the local authority

become in effect, if approved by the Local Government Board (which Board through its experts can criticize and control), a 'Local Act of Parliament'. Under certain circumstances the scheme, if objections be raised, can be vetoed by Parliament, but this contingency does not seem likely to arise.

In 1919 the Housing and Town-planning Act 1919 was passed simplifying procedure under the previous Act, and

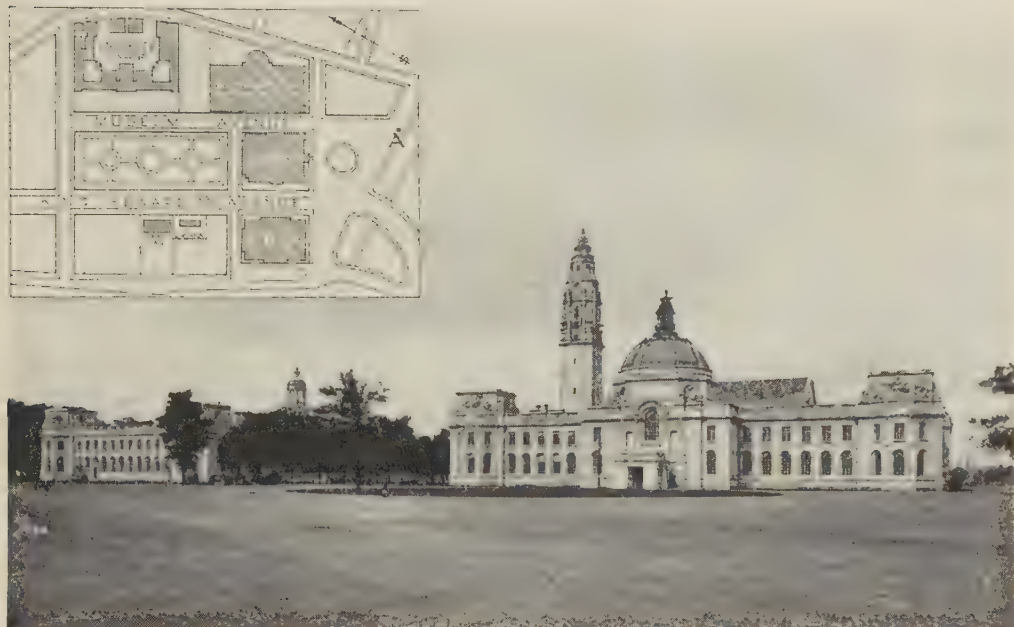


FIG. 70 CATHAYS PARK, CARDIFF

An example in Great Britain of an attempt to group together the public buildings of a city in one imposing centre. The view is taken from the point A on the plan, looking in a north-westerly direction.

making it obligatory for all towns having a population of more than 20,000 inhabitants to prepare a town-planning scheme before 1st January 1926 in respect of all land within the borough or urban district. Such town-planning schemes cannot provide for the yet unbuilt-upon areas without considering their relation to the existing town. This Act also simplifies joint action by neighbouring local authorities. The maximum number of houses which may be built to the acre may be limited to twelve.

Judged by their cities no less than by their history the Dutch would seem to possess a higher civic consciousness than any other nation. Their problems are therefore less concerned with

mistakes of the past than with safeguarding the future—which means, in all modern states, the provision of worthy homes for the industrial classes. The municipality of Amsterdam, in co-operation with its Public Utility Societies, has prepared a scheme for the provision of no less than 20,000 working-class houses, half of which are already in hand, 4,000 being actually occupied. Great care is taken in assigning the new dwellings

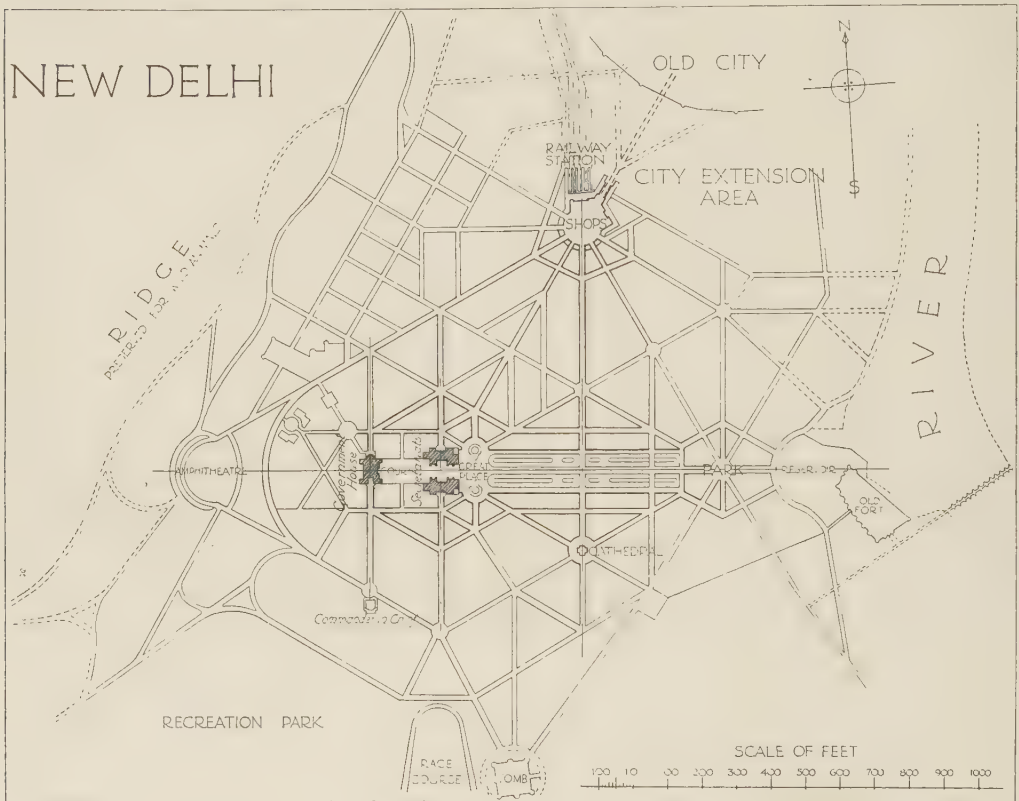


FIG. 71

to ensure that each family has a house of a size suitable to its numbers. Some houses are designed for families of five or more children, and these are reserved for such families. A household having a member suffering from tuberculosis is accommodated in a dwelling which has a sunny balcony or a garden. Defaulting tenants, or those who cause annoyance to their neighbourhood, are not simply ejected but are removed and segregated in special areas of temporary bungalow buildings, where they are kept under strict supervision by a resident manager of the municipal



houses, who reports weekly on the circumstances and conduct of each family and does everything possible to help and improve them. This plan draws its inspiration from the work of Miss Octavia Hill among the London poor; and the first managers appointed were women who had been trained by her in the methods she had introduced for the management of slum property bought by Ruskin for the purpose of the experiment. Amsterdam has now a staff of thirteen such managers working under a chief Woman Manager. They not only collect the rents but take note of any necessary repairs, and instruct the householders in the use of the gas cookers and electric light with which all the municipal houses are fitted, and in the regulations and conditions of their tenancy.

New cities have been planned in America, and a new government city is being erected at Delhi, but the largest town-planning scheme of to-day is that of the new Australian Commonwealth capital, Yass-Canberra, unique in being an example of the first large city to be planned, *de novo*, on virgin soil. Here a city is being created with a proper grouping of its various parts with a government centre, municipal centre, market centre, manufacturing area, and residential area, each centre finely designed and yet providing for future expansion, and the whole, with its fine street and park system planned as one complete unit and taking full advantage of the configuration of a very fine site.

To quote the author of the design, Mr. Walter B. Griffin of Chicago, 'Taken altogether, the site may be considered as an irregular amphitheatre, with Ainslie at the north-east in the rear, flanked on either side by Black Mountain and Pleasant Hill, all forming the top galleries; with the slopes to the water, the auditorium; with the waterway and flood basin, the arena; with the southern slopes reflected in the basin, the terraced stage and setting of monumental government structure sharply defined rising tier on tier to the culminating highest internal forested hill of the Capitol; and with Mugga Mugga, Red Hill, and the blue distant mountain range sun reflection forming the back scene of the theatrical whole'.

As will be seen from the plan the main axis of the city is a line joining Mt. Bimberi and Mt. Ainslie, and on this axis to the south of the water is placed the capitol (itself on an eminence), with the other official buildings forming the government centre. On the same axis, but to the north of the water, is the recreation

# CANBERRA

PLAN OF CITY AND ENVIRONS

SCALE ———



FIG. 72 CANBERRA, THE AUSTRALIAN FEDERAL CAPITAL  
The new city now being built from the designs of Mr. Walter B. Griffin



centre with its park, casino, stadium, art galleries and museums, and theatres. At right angles to this main axis runs the line of the ornamental waters formed by flooding the central flats of the river Molonglo, an axis terminated to the west by the University and Black Mountain and to the east by the prospect of the lake and the Queanbeyan Plains.

The subordinate axial lines have been planned with equal skill both as regards the architectural relation of the subordinate

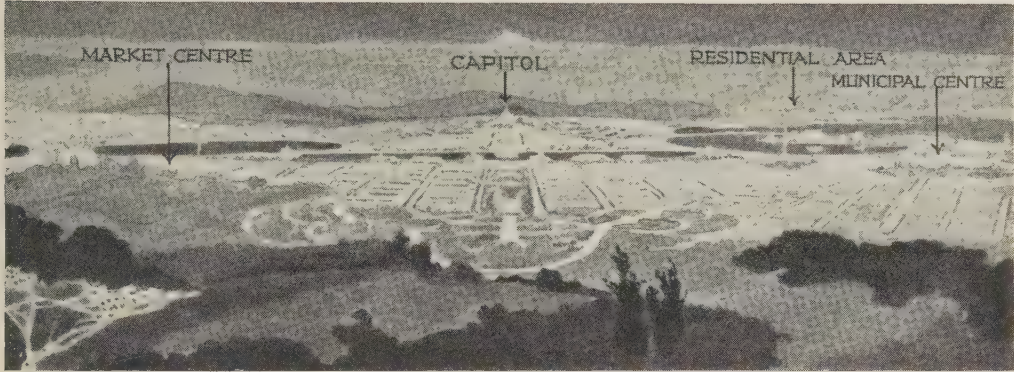


FIG. 73 CANBERRA

View of the new city as seen from Mount Ainslie and looking towards the Capitol

centres to the chief government centre, and in the arrangement of the lines of the main avenues which are so planned that they shall have as vistas views either of one or other, the distant mountains, or of the chief buildings of the various centres.

Canberra will be the first city to show, on a large scale, the embodiment of the principles and ideals, both aesthetic and practical, which the experience of the past century have proved to be essential to the realization of an adequate town-plan.



## IV

### The Future

‘The city of which we are the founders, and which exists in idea only ; for I do not believe that there is such a one anywhere on earth. In heaven, I replied, there is laid up a pattern of it, methinks, which he who desires may behold, and beholding may set his own house in order’.—PLATO.

**I**N our brief review of town-planning in the past we have seen how the plans of ancient settlements, whether Roman colony of discharged soldiers, market town, or military garrison, have expressed the needs of their age and their makers, and how the disposition of the buildings is apt to reveal the manner of life of those who inhabited them. Although the needs and conditions of our age are very different, yet the art of town-planning must still reflect the character of the time. It will indeed do so whether or not we consciously design that it should : our existing slums bear unpremeditated witness to the social conditions of the nineteenth century as do our modern churches to its slavery to convention and its fear of originality.

It is a chastening thought that our modern cities suggest nothing greater than the intense activity of the builder and contractor. The twentieth century should be capable of a finer expression of its ideals and needs. Most of our large modern towns sprawl over the countryside in formless blotches, the misshapen products of unregulated growth, many of them submerging and assimilating small towns and villages in their immediate neighbourhood. It is obvious that such aggregations must need systematic reconstruction to adapt them to present-day demands. Existing towns, however defective, cannot be razed to the ground and rebuilt ; they can be reconstructed only in part, so that modern town-planning must largely resolve itself into the correction of the mistakes due to lack of town-plans in the past.

But for all this there must be a well considered plan drawn with knowledge derived from experience, and above all things there must be foresight ; improvements that are merely tem-

porary and local are only a waste of public money. Change is unceasing, and it is not easy to foresee how a city will develop, in which direction or to what extent. During the last century there was a great migration from the country to the town, so that

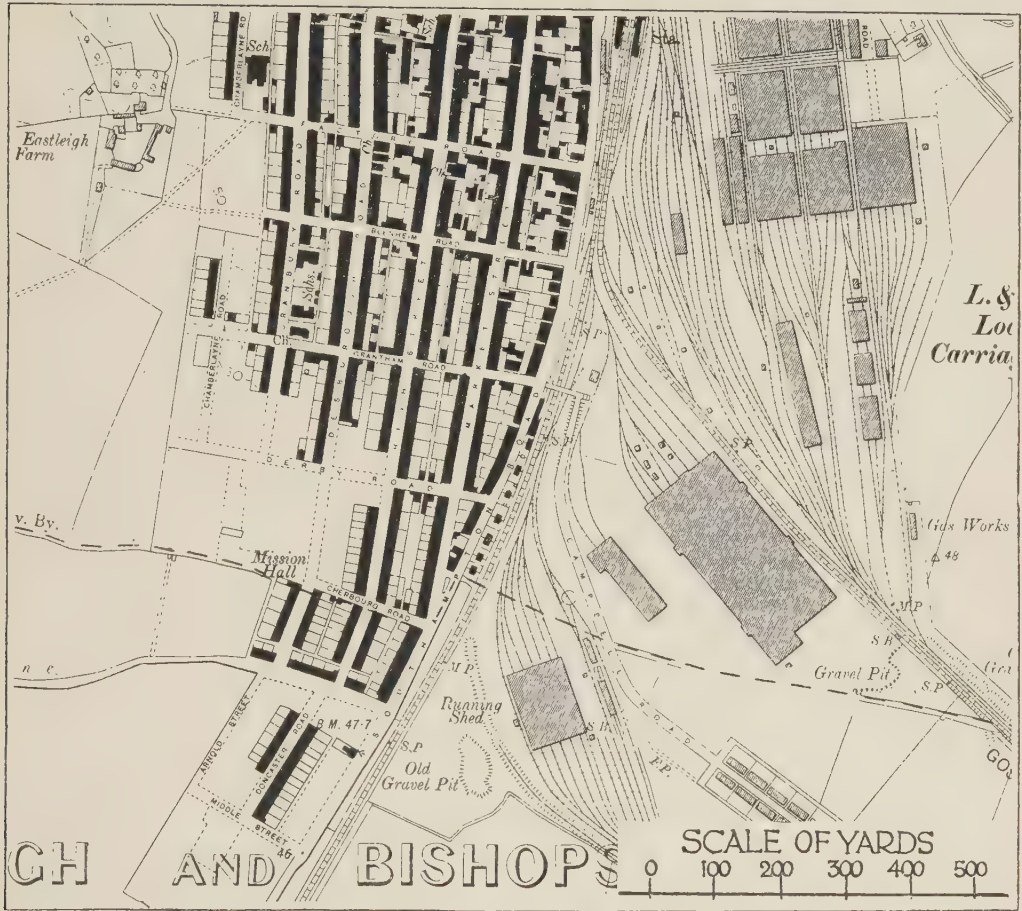


FIG. 74 EASTLEIGH, HAMPSHIRE

An unfortunate example of a modern village 'dumped down' (to accommodate workers at the neighbouring carriage and wagon works) without any regard for the character of the surrounding country and built without the provision of an adequate plan. Compare this plan with Letchworth. Adapted from the Ordnance Survey Map, by permission of the Controller of H.M. Stationery Office

75 per cent. of our people are now town dwellers; London increased its population fivefold between 1801 and 1901. In the next hundred years the movement may be reversed, through cheaper and swifter means of transit, or by bringing power to raw material instead of carrying material to the sources of power.

It is therefore difficult to estimate the forces that will act on a town in the future: Wren's plan for London provided one bridge across the Thames where now there are five. New industries may stimulate growth in small towns. Who can tell, for instance, what would be the effect upon East Anglian towns of the discovery of a great oil field in Norfolk? There is moreover a constant tendency to change in the character of town-areas, and the last hundred years have seen fashionable districts change to slums and the great houses of the rich become the warrens of the poor, or residential quarters change to shopping and commercial centres.

One thing at least is clear, that schemes for town improvements should be prepared at once, on comprehensive lines and in such a manner as to give the finest expression to our own present-day activities. Such schemes need not come to full fruition for generations; but they will ensure that henceforward what is done is done properly as part of a planned whole. Incidentally one great obstacle to efficient town-planning will be prevented, the erection of costly buildings on land which may soon be required for other purposes, such as the widening of existing, or the provision of new, streets. Adequate preparation for further expansion is a mere 'business proposition': no manufacturer would plan his factory without providing for possible future extension according to the development of his business; and the same elementary precaution should be observed by the business men who manage the public affairs of our towns.

The Housing and Town-Planning Act 1919 provides for one large whole and co-ordinated plan in each centre and, rightly applied, will prevent new suburban areas being planned without regard to the present and future expansion of the mother town; and will enable us to profit by our experience of the evil results of such a policy in the past. Care is already being exercised over the individual designing of houses, and in devising and experimenting with new forms of construction which were not allowed under the old by-laws. At the same time, with a limit imposed on the number of houses which may be built to the acre, and the example of the various garden suburbs, an improvement has been made in 'site planning'; in place of the unintelligent and uninteresting cutting up of building sites into equal sized rectangular building blocks, all houses 'toeing the line' of a



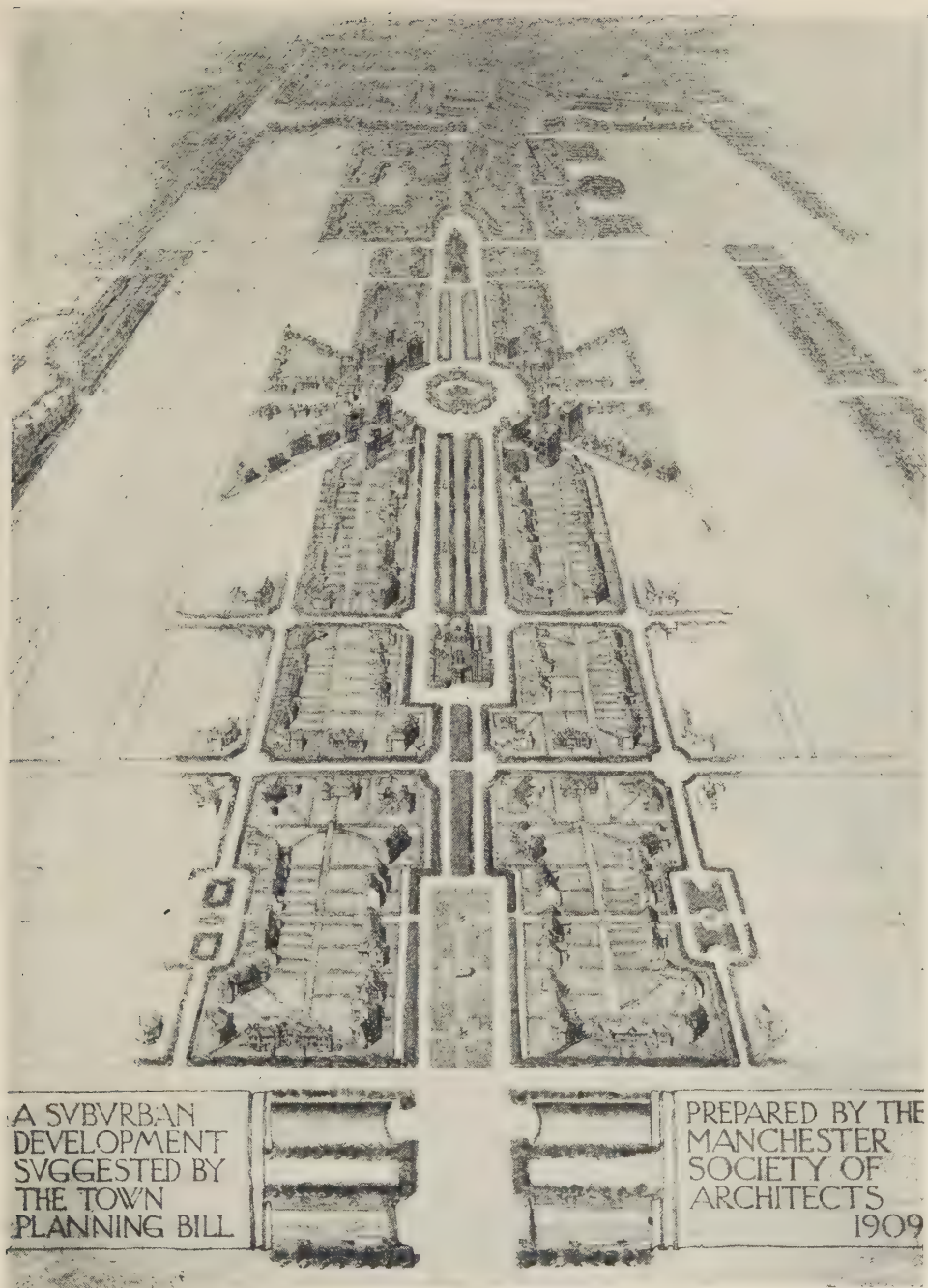


FIG. 75

common frontage, more attention is being paid to the aspect and prospect of even the smallest houses, to the provision of garden land, and to the special characteristics of the site. The improvement in site-planning for housing schemes might well be extended to houses built by private speculation in suburban areas and in country towns and villages. At the present time restrictive covenants made on the sale of the building land may prescribe that all houses shall conform to one building line—hence the cutting down of fine old trees to comply with this fatuous limitation—and that the boundary wall to the road shall be of masonry 2 feet high with an iron railing 3 feet high above this! Small wonder we so often have the depressing sight of a typical town street driven out into the open country.

It has been objected that the Act is mainly utilitarian and does not go far enough from the architectural point of view. This is hardly correct. Wisely interpreted the Act may have far-reaching effect on the fundamental architectural character of our towns. That we should provide primarily for healthy towns and decent homes for the poorest is the right foundation. When all our citizens are decently housed we can go further and carry out the desirable improvements—schemed from the first—for which the Act provides, endowing our towns with order and beauty, and gradually providing that ‘architectural backbone’ so essential to the success of any city plan.

To achieve success in a town-planning scheme it is first necessary to awaken public interest, and next to instruct the people concerned. To some of the requirements the public mind is clearly alive, but it is essentially the breadth of view which needs to be increased and the standard of requirement raised.

Public action in America and Australia is instructive. In the United States most of the large towns have Commissions, Clubs, and Societies, some of them officially recognized, and all of them composed of the most responsible of their citizens, whose object is the consideration of the cities’ needs and the formulation of town-planning schemes—these often of high artistic merit. In Australia there is a central organization, working with the State and called ‘The Federal Council of the Australian Town Planning Conference and Exhibition’, which stimulates the spirit of town-planning in the dominion.

In the preparation of the preliminary work which is essential

to a sound scheme—such, for example, as the preparation of a series of maps or ‘civic surveys’ showing the density of population, the distribution of traffic, the existing provision of parks and open spaces, and in a graphic form statistics as to death-rates, &c.—much can be done by the voluntary work of public-spirited men and women working together. There seems to be no reason why some of this work should not be begun in the schools and so create an interest in the growth and development of their town amongst the younger generation.

In the early stages of a town-planning scheme advantage should be also taken of the services of local architectural and kindred societies whose aid might be invaluable; and when the local authority finally formulates its schemes, corporations, committees, and the public generally must realize the necessity for highly skilled advisers in all matters of town-planning. They themselves, with their officials—whose duties are already sufficiently onerous and comprehensive—cannot, unaided, prepare the best schemes which will co-ordinate into one the multitude of diverse details which go to make the ‘city plan’. Just as our business men have learned that a skilled organizer can save money for the shareholders in an industrial concern, so they must realize that expert planning will not only produce more convenient and beautiful cities, but will do so at less expense than the haphazard rule of thumb of Victoria’s time.

The question of the desirability of exercising control, not only over the general planning of a town, but also over the buildings erected therein, and the various details affecting the amenity and appearance of a city, is one which has often been debated. A Ministry of Fine Arts might be helpful, though much would depend upon its constitution. One thing is quite evident, and that is, that until an enlightened public demands a higher standard of attainment in all matters which affect the appearance of our towns, some central body empowered to give architectural advice to all corporations would benefit the community at large. The policy of *laissez-faire*, in architectural as in other matters, has been tried long enough; the liberty of the individual is a noble ideal philosophically, but in practice it has too often meant the right of one man to obtain his own gratification at the expense of his neighbour.

To take but a minor example of the incongruity which, in default of a finer civic spirit, may result from the lack of a con-



trolling power we have only to examine the early nineteenth-century stucco fronted terrace houses of London. Though presenting quite a simple and dignified design as a whole, individual houses may be conspicuous in their newly painted colour—pink, perhaps, whilst the adjoining houses are white and yellow respectively—and we shudder at the sight of well-proportioned columns and their details cut in half by the change of colour at the dividing line of ownership.

The aims of a town-planning scheme must be to provide, now and in the future, for the free circulation of traffic in our cities ; the proper allocation of sites for the various activities of a community, and for the public buildings ; to secure hygienic conditions, plenty of fresh air and light, parks, open spaces, and recreation grounds ; and the provision of decent homes, and sites for future expansion. Slum areas must be cleaned and sweetened just as much as the heart of the city ; and a beautiful environment for all the inhabitants must be the ideal inspiring the whole scheme. For as Cowley wrote of the Dangers of an Honest Man in Much Company, ' we ought, in the choice of a situation, to regard above all things the healthfulness of the place ; and the healthfulness of it for the mind, rather than for the body '.

The material requirements of a town, as essential as they are too often lacking, do not represent the full need of a community. A broader conception of civic life is needed, and the mental satisfaction of an artistic environment which is sought in the individual home should be sought by the citizens collectively in their city. For health is maintained, not only by good sanitary conditions, but even more by the subtle influence of environment. The modern city should be a city of health and beauty for rich and poor alike.

The greater issues of town-planning must not be lost amidst the multitudinous details of drainage, light, and water supply, gradients to roads, and minor improvements ; nor is the complete success of a town-plan to be achieved simply by the erection of beautiful buildings or the enrichment of the town with fine sculpture and civic ornament. Success originates in the very earliest setting out of the lines of the plan. It is dependent upon the lines of the thoroughfares, the setting out of the parks and open spaces, and the allocation of the sites for the public buildings ; in the placing of the bridges and quays and in the relating of suburbs and industrial quarters to the

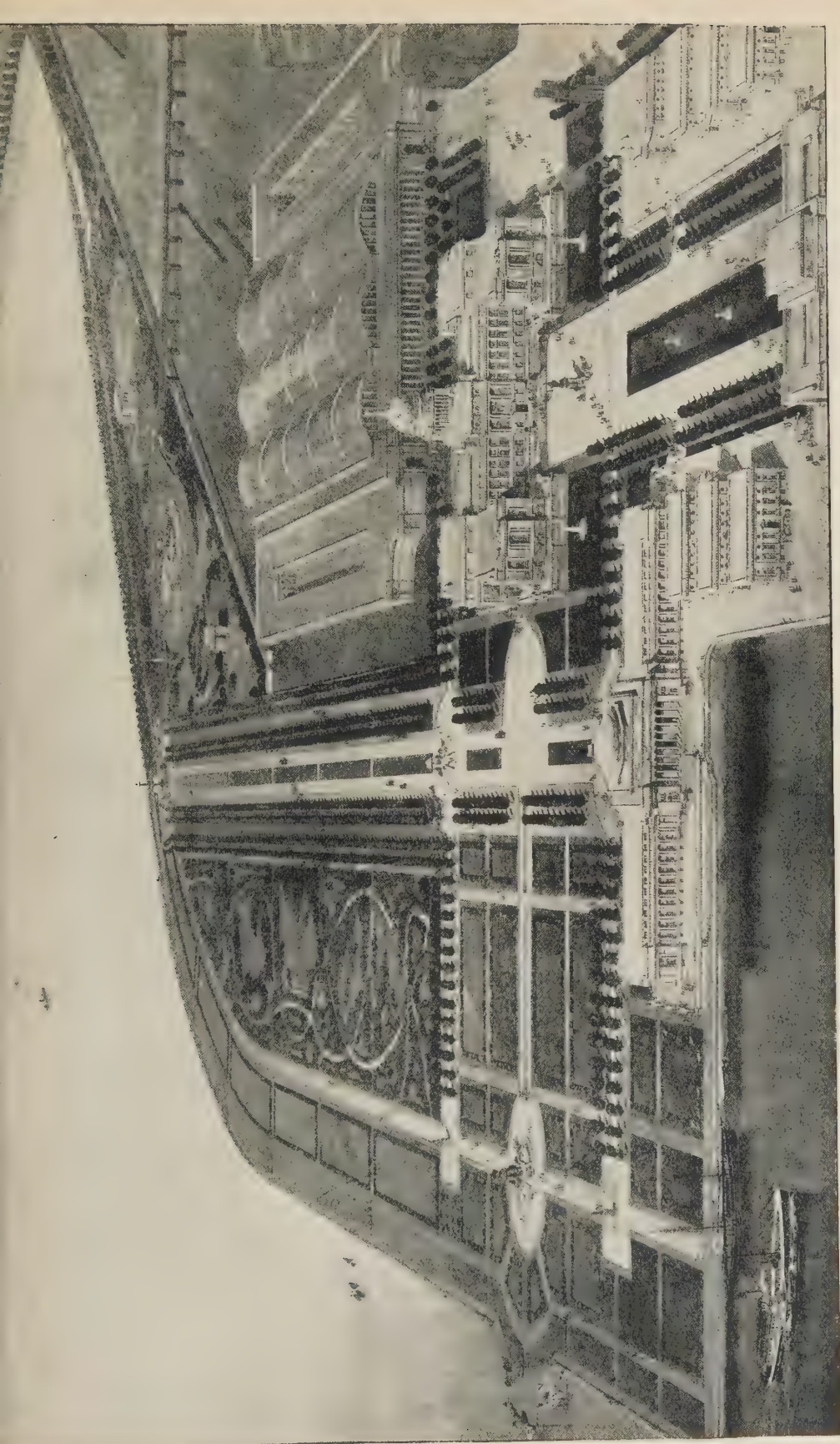


FIG. 76 DUNDEE IMPROVEMENT SCHEME

This scheme provides for the reclamation of land from the River Tay, which will be converted into public gardens, &c., and for the provision of a new station and public buildings grouped to form a civic centre



central town-plan. For efficiency, for beauty, and for dignity an orderly distribution of the parts which go to make the complete unit, be it city, town, or village, is essential.

The existing chaos of our modern towns and cities needs to be replaced by a sense of unity, the treatment as one great whole of buildings, roads, parks, and sculpture. Unity is essential to beauty; incongruity—e.g. a fine statue without a proper setting—is an artistic blunder. The vast collection of details which go to make the modern city—from the grand boulevard to the simple street sign—must be in harmony.

Our ideals and needs should be capable of expression in a uniform architectural style throughout a town. This does not mean a monotonous repetition but it does mean an honest attempt to meet the requirements of our own times and the cessation of exercises in 'architectural style'—a Tudor cottage cheek by jowl with a Queen Anne mansion, or a Venetian Gothic bookshop abutting on to a Palladian restaurant. A continuous inherent character is needed in our town buildings, together with something of a uniformity of colour in the building materials. Portland stone, placed side by side with terra-cotta, jars; the Bath stone of Bath, the granite of Aberdeen, or the red brick throughout some of the smaller towns of the Home Counties show the value of uniformity of colour in a town or village.

In the setting out of a town-plan the determining factors are numerous and will vary with each scheme, whether for the creation of a new city or the expansion of an old town, for the provision of a large industrial centre or of a small village. There are, however, certain constant factors that must be considered wherever town-planning in any form is undertaken, and, although most town-planning work in this country may resolve itself into the remedying of existing mistakes and the provision for expansion, present and future, it will be well to keep ever before us the ideal of the perfect city as it might be laid out were we to start afresh and profit by our experience and former errors.

That the means of financing a city plan or improvement scheme must materially affect its scope needs no emphasizing. But it must not be imagined that town-planning means heavy rates. More money is spent on slum clearances and the widening of roads—the result of previous lack of town-planning—than is required for the efficient carrying out of a Town-Planning scheme under the new Acts.



For convenience the number of determining factors may be considered under five headings which are as follows :

1. The nature of the site. Topography will always dictate the general lines of the plan ; and with the natural features of the site may be considered the preservation of spots having the charm of beauty, of historical associations, or of architectural interest.

2. The distribution of centres. The distribution of the various centres of activity in a city or town—administrative, commercial, industrial, and residential—must necessarily form the basis of the plan, and together with these zones may be considered the allocation of various centres such as market, educational, and recreative, and the arrangement of sites for buildings of a public character.

3. Transport and the general traffic and street lines. The main roads of a town form the framework, the essential structure of its plan, and their arrangement is therefore of the first importance. They must be considered in view not only of internal communication, but ‘ regionally ’, and in connexion with possible future expansion and of the need to link up the town with other centres.

4. Health. This one word involves many ideals in city-planning. It means light and airy streets, the avoidance of congestion in building, the ample supply of parks, open spaces, recreation centres, and playgrounds. The practical questions of a good water supply and of sewerage are obviously important. But not less so is the provision of a beautiful environment in contributing to the health and welfare of the citizens.

5. Housing Problems. The housing of the manual workers in decent and healthy homes with easy and cheap access to the industrial centres will affect the city plan. The limiting of the number of houses to be erected per acre and of tenement buildings are important factors ; and a minor problem is the provision of dwellings for the wealthier classes whose domestic problems may lead to an increase of flats or communal dwellings and the centralization of heating, cooking, or domestic services.

The interpretation of these factors in a town-planning scheme may now be considered in some detail.

### 1. *The Nature of the Site.*

Above all things, in our planning we must remember the individuality of a city, town, or village, and the need to express

definitely this character of a place should be one of the first considerations. We must take into account its traditions, the life of its people, its type—whether collegiate, legislative, or commercial—the building material at hand, the vegetation that will thrive, and above all the configuration of its site.

The nature of the site influences the form which the design of a country house shall take, and it is of far greater importance where considerable masses of buildings with their communicating roads are concerned. The larger the town—and the tendency is ever towards larger areas, the more will the undulations and levels of the site affect the plan. It is necessary to think always in three dimensions: length, breadth, and height. The hills, valleys, river bends, spurs, and folds in the ground must determine the lines to be laid down for the city, and in the skilful adaptation of these lines to the site lies the secret of giving individuality to the city plan. There must be no preconceived idea of a fixed type of plan, 'formal' or 'informal', to be imposed on the site: picture the futility of a network of streets on the gridiron or chess-board plan superimposed on a wide area of hills and valleys, streets with steep gradients running up hill and down without any attempt to conform to contour lines. As one site differs from another, so must the city erected upon it. This implies no restriction upon a designer's powers: a true designer is helped rather than hindered by the challenge of the conditions, as a true poet by the very conventions into which he must cast his verse—for 'it sheweth more cunning in the maker by following the rule of his restraint'.

So the restrictions imposed by the nature of the site, or by the need to preserve certain buildings already upon it, will be a stimulus to originality of treatment.

The mountain, valley, plain, river, or lake will all determine the form of plan, whilst every minor feature of the site, woods, ponds, or even clumps of trees must be taken into account and turned to good effect.

The lake will suggest a water-frontage, with important buildings placed in relation to it; the hillside and summit will provide a commanding position for the chief public buildings of the city and will afford opportunities for noble approaches and terracing. Elevated sites, if protected from the cold winds, will also provide the most favourable position for residential quarters.

Valleys, if containing stagnant or running water would be

best utilized as parks ; lofty buildings should never be placed in such positions, where they block the view of surrounding country ; they are more effective on the higher sites.

The river, perhaps, will have the strongest influence on the design for the development of the site ; the possibilities of great sweeping curves to its embankments, the views of and from its bridges, and the splendid positions for public buildings lining each bank should not be overlooked. Should the river run like the Wear at Durham at the foot of some precipitous hill, a magnificent site is suggested for the great building, ecclesiastical or civic, which is to dominate the whole city plan.

In any industrial town the river, if navigable, will be of the highest importance to the commerce of the place ; the factories must be set near it with their quays and railway sidings, and to the leeward of the rest of the town.

Though the nature of the site itself will determine the general lines of the design the prominent features of the surrounding country must also receive careful consideration. Views of distant mountains, hills, water, or any beautiful prospect should be preserved to the city which, like a country mansion, must be planned in relation to them. Avenues, open spaces, and the forecourts to public buildings must be schemed to obtain views and vistas of the distant country, the formal city buildings framing the landscape and serving as a foil to enhance its beauty.

The introduction of a town-planning scheme for the improvement and development of an existing town or village involves further problems, the chief of which is the preservation of important features, natural or the work of man. Whatever may be the size of the place it will have some character, tradition, or monument which must at any cost be preserved. True local patriotism must be nourished and not killed by ' town improvement ' and anything which speaks of the past in a town must be jealously guarded.

In England

Where'er we tread 'tis haunted, holy ground ;

the suggestion of the past meets us everywhere, and not least in the plans of our ancient cities—Lincoln with its main street still running up to its Roman gate, Chichester with its central carfax as in Roman times, Conway preserving to this day its mediaeval character as a walled city, York with its traffic lines





FIG. 77 BATH IMPROVEMENT SCHEME

An example of a town-planning scheme which has been skillfully designed to preserve the character and tradition of the existing city

still dictated by its mediaeval gates. So in many continental cities the ring boulevards preserve the lines of the earlier walls and fortifications.

Whatever there may be of traditional value should be preserved and, if possible, incorporated so as to form the basis of the new work. Similarly spots of remarkable natural beauty and buildings of architectural merit should be carefully guarded and incorporated in the scheme. It is a fallacy to suppose that the preservation of an ancient site or building will hamper the carrying out of an improvement scheme—such points may become pivotal, about which the new plan may be designed. Not only should the good buildings be preserved but the improvement scheme should provide a setting that will enhance their beauty. Every historical monument, from the mediaeval castle covering acres of ground, to the ancient gateway, bridge, or market cross, is deserving of the greatest care. How proper consideration and skilful design will convert what at first sight seems an obstruction into a feature of additional interest and charm may be seen by the preservation of St. Mary le Strand Church in the Kingsway improvement scheme.

## 2. *The Distribution of Centres.*

In the design of a house there is always a certain arrangement and grouping of constituent parts—living rooms, sleeping rooms, and working quarters—each part being placed and planned so as best to fulfil its special purpose, and all parts being arranged in the most convenient relationship to one another.

Precisely the same planning is required in a town ; different parts have different functions, and there must be a grouping of the various parts such that each district is most advantageously placed for the purpose it is intended to serve ; and moreover provision must be made that future developments will not lead to an increase of one part to the detriment of another.

Broadly speaking, the functions of a town may be divided into administrative—the administrative and general public buildings, &c.—the business, the residential, and the industrial. The chief shops will generally follow the main lines of traffic, the main centre being near to the heart of the town whilst minor centres will be formed in the residential areas. Each of these centres must be planned and placed according to its requirements. The administrative centre and business centre will naturally

require a central position with carefully selected sites for the public buildings ; the industrial centre must be near to the rail- and water-ways for cheapness and ease of transport—proper placing of these quarters will relieve the main streets of much heavy and unnecessary traffic ; and the residential area must be located on a healthy site which should be in such a position that the prevailing wind will not carry to it the smoke and fumes of the industrial area.

Each of these centres should be clearly defined. In large cities it may be necessary to have more than one area or zone set aside for each purpose, particularly for residences and industries ; this would have the advantage of providing suitable homes for workers near to their work without increasing the difficulties of transport.

With the rapid growth of towns it is not inconceivable that one may see Birmingham one vast city occupying a large part of the Midlands, or Manchester the centre of an enormous hive of industry forming one great town with Liverpool as its port. Such vast aggregations would only be tolerable with an organized zone system on a large scale with centres separated from one another by open belts. Then, instead of overwhelming all its litter like Bardolph's sow, the parent city would be surrounded by distinct, though satellite, centres, each with its own local administration, its own history and traditions and local interests, yet each having also the advantages of education, entertainment, and culture which only a great city can afford.

In addition to the main centres or zones other minor centres will be formed by the grouping of several buildings devoted to similar objects. Thus an Educational Centre would be formed by the grouping together of art galleries and museums with botanical and zoological gardens ; and here would be placed the university or technical college. Again, the grouping of theatres, opera house, and concert halls would in effect form another centre.

### 3. *The General Traffic and Street Lines.*

The problem of traffic circulation has not been given the consideration it deserves and must in future receive. London is a notorious example of the dangers and difficulties that inevitably result from inadequate traffic lines in large towns. In the Report for the Traffic Commission (London 1905) it is



stated that the chief difficulty standing in the way of improvement in the means of locomotion ' is the narrowness of the streets and the fact that they were not originally laid out on any general plan '. Owing to the imperfections of the road system £500,000 is annually spent on street improvements, the results from which are relatively slight ; and in one year (1907) the police dealt with 17,055 people injured by traffic in the county of London, of whom 283 died.

The system of main roads forms the skeleton of any scheme, and the points to be considered in its design are numerous. They may be briefly summarized as follows :

(1) The road system must be planned to serve effectively the different quarters and centres, the civic and shopping centre, the residential quarters, and the industrial areas. Though the public buildings, as the climax of the plan, require to be well seen from the important roads, it is undesirable that a constant stream of heavy traffic should flow immediately in front of them. Office quarters, again, need to be free from the noise of constant traffic ; and in the shopping centres the through traffic should not be blocked and become a source of danger by the congestion of tradesmen's vehicles in the main roads. The residential quarters must be well served with broad roads for surface tramways as well as for the supply of commodities, but the chief traffic lines should avoid these areas and be laid out in connexion with the industrial centres, to which also the railway lines and canals must be brought.

(2) The topography of the site will affect a road system primarily on account of gradients, but it will also dictate the position of bridges and quays in relation to which the main traffic lines must be planned.

(3) The main traffic lines should be largely arterial, running from the heart of the city to the outskirts ; but, as previously stated, a congestion of traffic in the centre and busiest parts of the town is to be avoided. This can be done by a system of ' ring roads ' which, linking up one main line with another, will enable traffic to pass through the town without actually crossing its centre.

(4) The main roads must be designed from the first with a view to future expansion. They must provide not merely for the area to be immediately built upon but for possible extensions over far larger areas, as a preliminary to which they must link

up the new centre with outlying districts and adjacent towns. and so regulate and unify in time to come the development of the surrounding district.

(5) Railway terminals and main traffic routes must be planned together: as, too, aviation centres. Duplication of railway stations is an evil to be avoided; it involves unnecessary



FIG. 78 LIVERPOOL. MAIN THOROUGHFARES

Wise foresight has been shown in the provision of a wide ring avenue three miles from the centre of the city and in the widening of the main arterial roads

movement of goods from one line to another and complicates passenger traffic. The railway terminals, as civic gateways, should be provided with large open spaces in front of them, giving vistas to the chief points of interest in the city, and from them most of the important thoroughfares should diverge.

(6) The speed of traffic no less than its bulk will regulate the width of roads; facilities for fast traffic are essential in any large town. These indicate broad, straight (or but slightly curved) streets, the avoidance of awkward turns, the provision

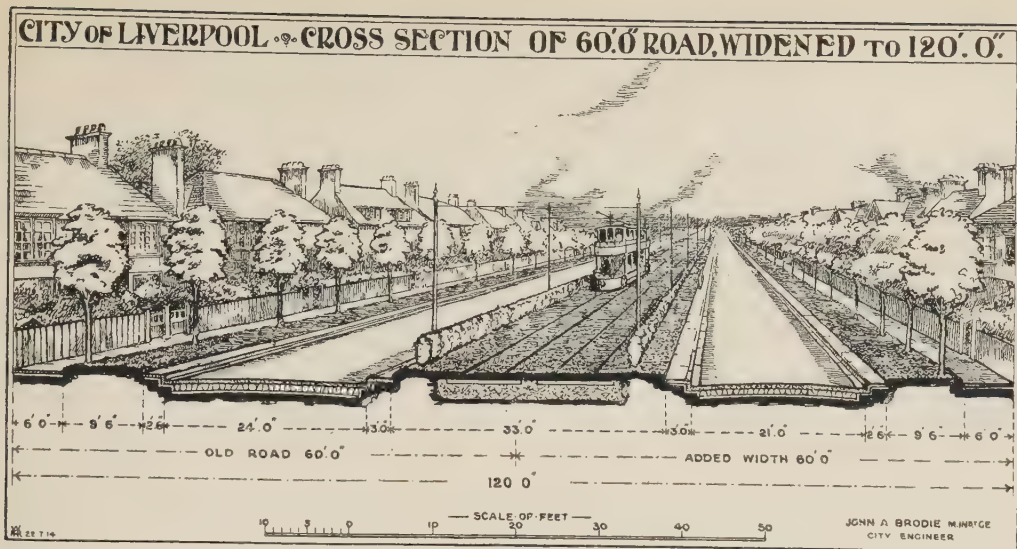


FIG. 79 LIVERPOOL

An example of street widening. Note that the tramway lines are laid in grass

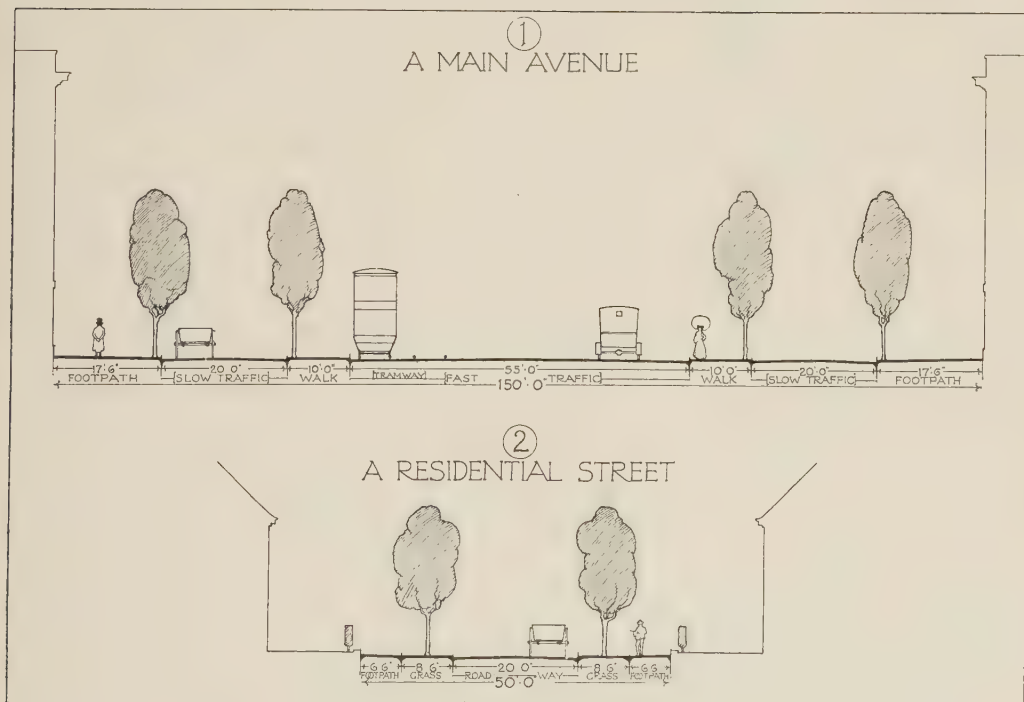


FIG. 80

No. 1 shows the subdivision of a main avenue—150 feet wide—with four lines of fast traffic and surface tramways in the centre and the slow traffic at the sides.

No. 2 shows a street in a residential district where the needs of traffic are small. The extra width of street required for light and air is devoted to grass plots, each 8' 6" wide, in which the trees are planted



of open points of intersection, 'circuses', together with easy means of supervision and direction. The main thoroughfares from and through the city must be laid down from the first on broad and ample lines; the study of London's highway problems has proved that a sound system of traffic circulation is a high commercial asset.

For the problem of different rates of travel, of pedestrian, electric car, horse, or motor, separation is probably the best

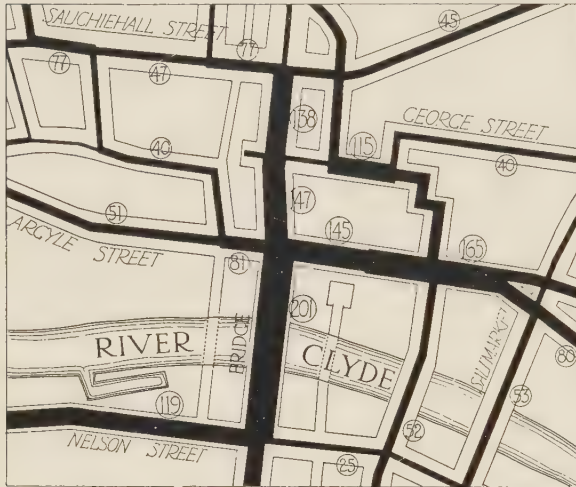


FIG. 81 TRAFFIC CONGESTION

Diagram showing density of car traffic in central area of Glasgow. The black lines vary in thickness with the density and the figures in circles indicate the number of cars per hour travelling one way. One of a series of diagrams prepared as a preliminary to the consideration of a new bridge to relieve the congestion of traffic. *Note.*—Possible positions for new bridge shown by dotted lines

solution, the fast traffic being accommodated in the middle and the slower at the sides. Underground railways will help to obviate congestion in the streets—in Chicago tunnels are successfully used to distribute merchandise from the large warehouses and even to remove refuse from the buildings.

When, as most frequently happens, the problem is one of town expansion and improvement, most careful attention must be given to the existing state of affairs and, as far as they can be foreseen, to all possible future developments. No projected suburban areas

should be laid down without consideration being given to their relation to the main roads of the central town. Much money can be wasted on road improvement unless it is done with foresight. Probably the best guide for the responsible authorities is a map showing the intensity of traffic—a map which could be altered year by year, thus showing the general tendencies. The future improvements could be decided upon in advance so that the property affected should not be improved or vacant land built upon until such times as the street widenings and

improvements and new thoroughfares were made. Something of this kind is done in Paris, where projected improvements are marked on a plan of the city and no additional building work is permitted to be done on the lines of possible future streets or street widenings.

That the cutting of a new street through an area densely built upon will be a matter of great expense need hardly be stated. It should not be undertaken unless proved to be the only remedy. Similarly street widening should not be con-

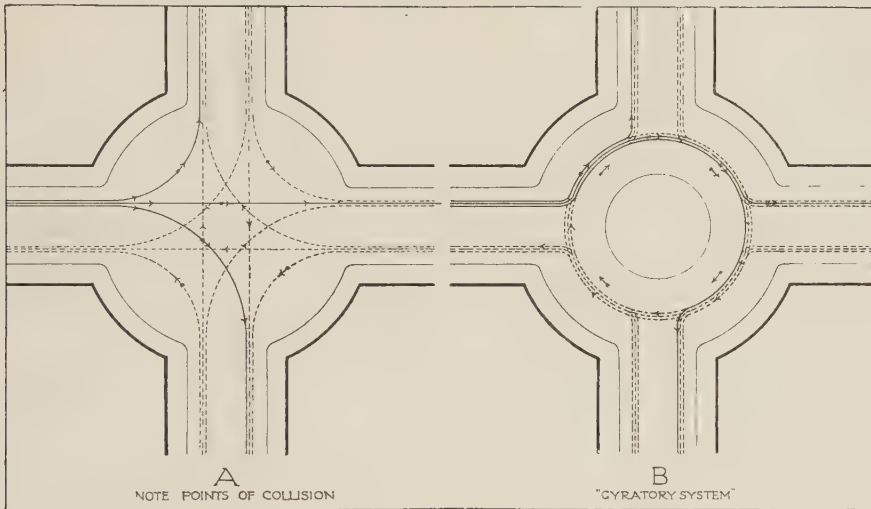


FIG. 82 CIRCULATION OF TRAFFIC

At 'A' (the existing method) the numerous possible points of collision at the crossing entail constant supervision and delays whilst first one stream of traffic crosses and then the other. 'B' shows how, when the traffic is not very dense, a 'gyratory' system of circulation will prevent any stoppage to wheeled traffic. Pedestrians could be provided for by subways.

The solid lines indicate the routes taken by one stream of traffic

sidered as an only solution. Extravagance in street widening leads to the bordering of the streets with high buildings in order to make up the income lost on the land forfeited. It is sometimes easier to construct a duplicate parallel street than to widen an old one; or again improvements in one quarter of a city may divert much of the congested traffic from the part most affected. In Chicago the bulk of the freight which by its carriage would otherwise obstruct the streets is collected at central dépôts and transported by tunnels. In any case spacious conduits, well constructed, should be planned under new roads that they may take sewage pipes, water, gas, telephone wires, &c., and so prevent frequent taking up of the roads.

As regards the difficulties of traffic crossing, when the levels will permit one road may be superposed over the other, as has been done at the Holborn Viaduct. There is much to be said for the method, much time and risk to life and limbs being saved by the separation of cross streams of traffic.

When such a method cannot be adopted the crossing may be widened out and the traffic regulated on the 'gyratory' system, as indicated in the accompanying illustration (Fig. 82).

#### 4. *Health.*

In the well-planned city the 'factors of health' are numerous. The residential areas must be on relatively high and well-drained ground and where the air is unpolluted by smoke and fumes; the site and prospect of individual houses must be considered: each must be given the maximum amount of sun and air and, hardly less important, of view. Rows of streets running due east and west with rooms in the miserable houses which never see the sun are not to be tolerated. Streets must be planned of ample width providing light and the proper circulation of air; and thus their direction must not be governed by an arbitrary parcelling out of the land nor by considerations of the maximum rental to be secured from it. The width of streets should obviously bear some relation to the latitude of a town, that the sun may visit them for some period of the day.

In future a far larger proportion of the available area must be devoted to parks and open spaces; and these lungs of the town should not be isolated but linked together by broad, tree-planted avenues. Playgrounds and recreation centres of ample size must be provided within easy reach of every school and home; for in the elementary schools a too bookish curriculum must give place to an education based largely on out-door interests and first-hand study of things instead of words; and for these open-air classes, as well as for the games that have done so much more than his teachers for the public school boy, adequate provision must be made.

The smaller the number of houses with gardens and the fewer the wide and tree-planted roads the greater will be the need for parks in the towns. It is, therefore, impossible to state the proportion which should exist between the area of a town and the area of its parks—each town will vary in its conditions. In Paris one-fourth of the area is devoted to park areas, in



Washington one-seventh, in Liverpool one-seventeenth, in Birmingham one-thirty-third. That which can be stated as a definite requirement for all towns is a proper park system. As to the general plan of this system opinion is divided. Some authorities advocate belts of park around the city, whilst others favour a radial arrangement of parks, for which there is much to be said since the system brings the parks and with them fresh air into the heart of the city, and the area of the park land can

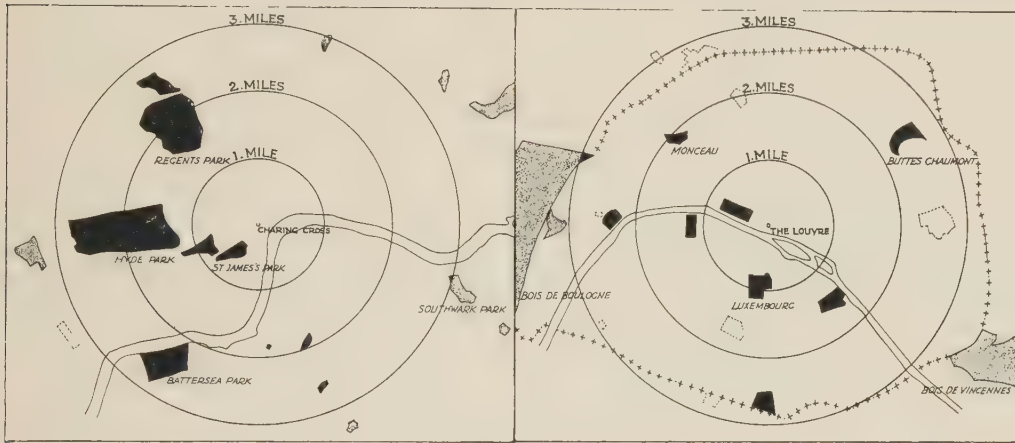


FIG. 83 DISTRIBUTION OF PARK AREAS

The parks within a three-mile radius of the central point are shown in black  
Parks outside this area are shown in grey. Cemeteries are shown by dotted lines

#### LONDON

Combined area of Hyde Park and Kensington Gardens—638 acres. Note the bad distribution of the parks.

#### PARIS

Area of Bois de Boulogne and Bois de Vincennes—2,100 and 2,300 acres respectively. The chain line marks the position of open belt on line of original walls of fortification.

be increased as land thus becomes less valuable on the outskirts. But a park system does not end with the adoption of either of these methods. A 'Park System' denotes the linking up of all the parks and open spaces. This can be done by means of wide avenues having trees and grass planted within them—'Parkways' they have been called—which are in themselves of the nature of parks and will permit of a tour of the whole park system without leaving the area of grass and trees and flowers. Moreover this plan spreads the benefit of the parks over the largest possible area of the town. The necessity for a definite park system raises again the question of a town-plan, for it is

only by such means that park areas can be allotted on the proper lines.

A town-plan or town extension scheme means the preservation of suitable areas in the right places (and when they can be bought at a reasonable price) until such time as they can be developed—such places will usually be either hilly ground or low-lying ground near ponds or streams which generally are the least suitable sites for building purposes.

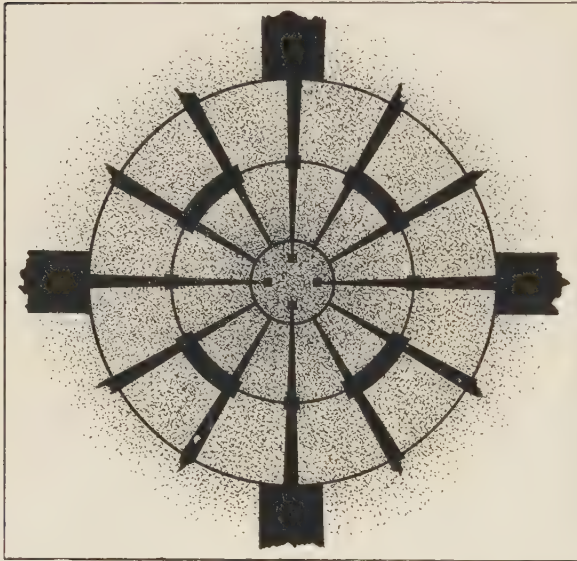


FIG. 84 Diagram showing the ideal system of distribution and linking up of the parks, open spaces, and playgrounds of a large town.

Parks and open areas shown in black

The character of parks will vary. Those on the outskirts of a town are usually natural parks, and should be left as such, giving to the town dwellers a glimpse of the real country. Those closer to the town will require some degree of formal lay-out to bring them into harmony with the essential formality of the city. This should be done on broad lines such as may be seen in Hampton Court Palace Gardens or Kensington Palace Gardens. Never in such positions should an attempt be made to imitate

nature—a puerile effort often made and always ludicrous in its results.

Parts of the 'Park System' will be open spaces. The term is here used, not to denote a common or park but such open spaces as squares and town gardens (e. g. Bedford Square or Leicester Square), features which bring a glimpse of green trees, water, and grass to dwellers and workers in all parts of the town. Open spaces are absolute desiderata in every town for the health of the people, and especially of the younger generation. Much has been done already through the action of individuals and societies to provide our large towns with 'lungs'—for example, in London many disused churchyards and burial grounds have been con-

verted into 'town gardens', and these in quarters where they are most needed. As with so many other things provision for open spaces can only be made as part of a well directed system ; when there is a town-plan likely sites can be earmarked and scheduled before building operations in the neighbourhood make the price prohibitive. Hitherto the treatment of the open spaces in our towns—whether large central squares or circuses, the focal point to many streets, or small partly enclosed gardens—has left much to be desired ; the results too often remind us of

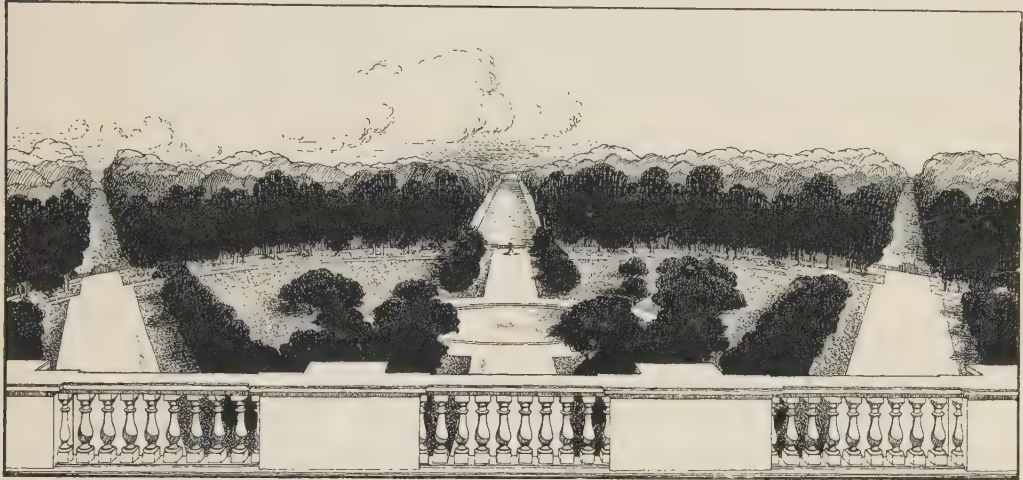


FIG. 85 HAMPTON COURT PALACE GARDENS

An example of a park with large stretches of grass and fine masses of foliage laid out on broad and simple lines

George Gissing's observation that the parks are but pavement disguised with a growth of grass. Hard asphalt paths, often tortuous in shape, 'rustic' iron seats, and wood and metal abominations for band stands, should give place to gardens laid out on simply broad lines with decent balustrades and other civic furnishings. Such open spaces often provide admirable sites for sculpture, where a few good things by able men are to be preferred.<sup>1</sup> In this connexion it is to be hoped that the large number of beautiful village greens which the country possesses will not

<sup>1</sup> 'Leicester Square shows us another thing : such places must be made bright, pretty, and neat—a small place which is not so becomes painfully dreary ; it is quite curious to notice how little one

feels shut in when the barriers are lovely, or contain beautiful things which the eye can rest on. The small enclosed leads which too often bound the view of a back dining-room in London oppress one



be spoilt by ill-designed, unsuitable, and badly placed war memorials. There is as much art in the proper placing of a statue or memorial as there is in the execution of the work itself, and in any attempt to restore the ideals of beautiful towns and cities more care must be exercised in the design and setting of

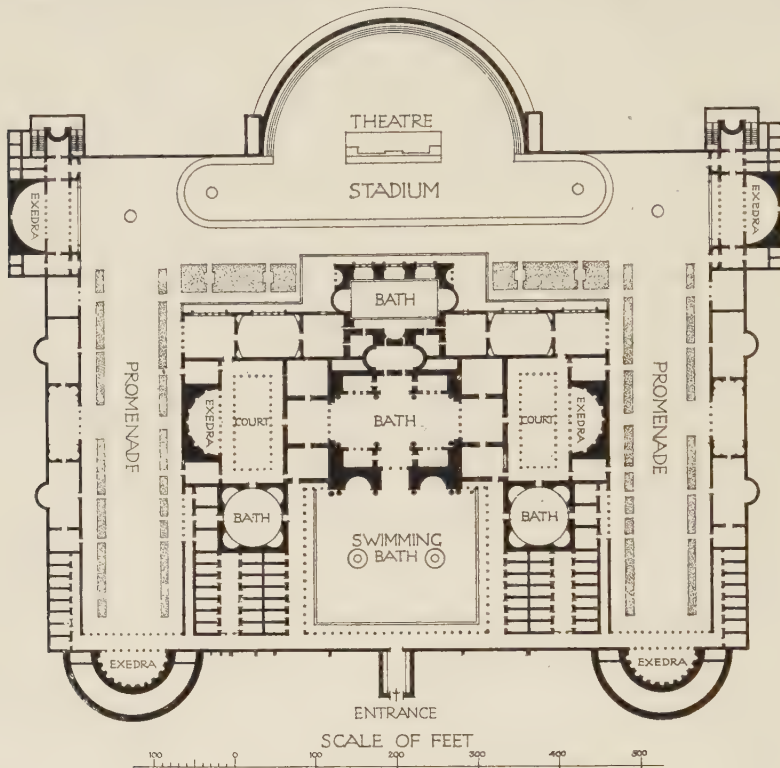


FIG. 86 THE BATHS OF TITUS

In the Roman Thermae Baths, halls for athletic pursuits, stadia, promenades, and places for literary discussions were all grouped into one big architectural scheme

its various furnishings and ornaments, from the noble statue to the more humble lamp-post and street name-plate.

Whilst at first sight it might be thought that playground and recreation centres should be considered with the park system (of which they form a most important part), reflection will show that they are features which should receive special thought and treatment. The medical examination of all males

like the walls of a prison; but a tiny cloistered court of the same size will give a sense of repose; and colour introduced into such spaces will give them such

beauty as will prevent one from fretting against the boundaries' (Letter of Octavia Hill on Gardens in London, 1875).

of military age during the great European war revealed alarming evidence of degeneration in national physique, and this must be largely attributed to the lack of adequate provision for play-grounds where the children of our poorest class can take proper exercise in the far too numerous overcrowded areas. The frantic efforts now being made by the Board of Education to force

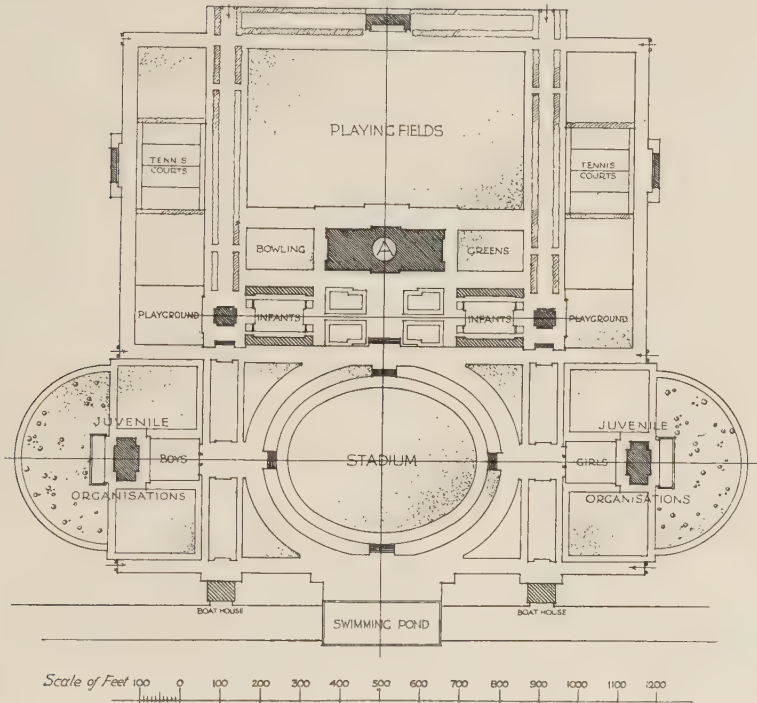


FIG. 87 A RECREATION CENTRE

The central building (marked A) would contain an Assembly Hall, Reading Room and Library, Lecture Rooms, Gymnasia and Swimming Baths, and Tea Room

'organized games' into the elementary school curriculum are doomed to utter failure unless and until playing fields are provided.

Public playgrounds are absolutely essential for the health of a nation. They should be numerous, so that no child shall have to go too far to reach one, and for that reason might be planned in connexion with the schools, though their times of opening should not be dependent upon the school hours. A public playground should not consist of an asphalt court surrounded by four walls. The effect of a beautiful environment on children as well as older people is undoubted, and the appeal

of pleasing surroundings is an inducement to the taking of exercise. The baths of ancient Rome were not bathing establishments alone. Built by various emperors to ingratiate themselves with their subjects, they provided, in addition to baths, halls and courts for all forms of athletic pursuit and for the discourses of statesman, philosopher, and poet. They were planned on a magnificent scale and were examples of architectural dignity. Possibly inspired by Rome's bigness of conception Chicago has provided a series of 'neighbourhood parks' varying in size from ten to sixty acres, each with assembly hall, reading room, gymnasium, swimming pools for both sexes and a large swimming basin and running track. Ample playing fields are of course provided in addition. Entertainment, lectures, music, and dancing are provided for in the assembly halls, and the whole is an example of what might be done in this country. An instance of a natural reserve acquired for the inhabitants of a large city is that of the Lickey Hills estate of over 450 acres acquired by Birmingham, from which town it is nine miles distant. A portion of this beautiful natural park has been set aside as a recreation centre, which is here illustrated, and which is an admirable example of such a centre.

Whilst stadia, playing fields, swimming ponds, and lecture halls treated as one great scheme may be suggestive of endless opportunities for the fine treatment of recreation centres in the future, one must not lose sight of the immediate needs for small playing grounds in all congested areas, such as have been provided by the London County Council in some of the overcrowded areas which they have rebuilt (see Fig. 89), with the houses in some instances fronting, in admirable fashion, on to the central open area. There seems no reason why the builder of, say, tenement houses should not be encouraged to leave an area unbuilt upon for a playground in their building schemes, such an open space being chargeable to the general rates instead of the rents of the dwellings.

### 5. *Housing Problems.*

The problem of the decent 'housing of the people' is now in all our minds. Better housing is a crying need; examples of the dire condition of many of the homes of the poorer classes in large industrial centres are unnecessary—they are too well known. It has been said that 'The life of a nation is in the breath of its school children'—and the breathing areas are far too polluted.



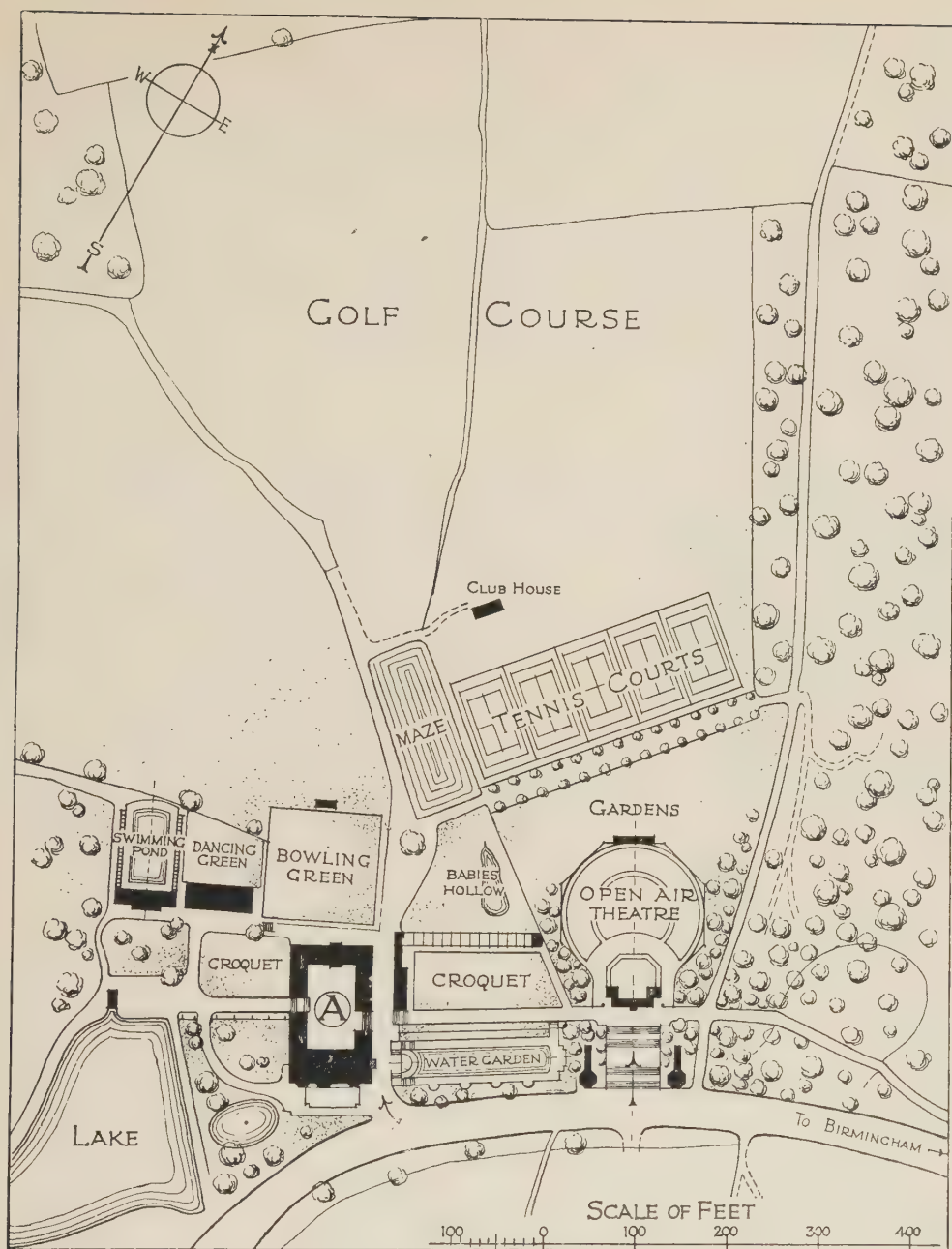


FIG. 88 PROPOSED RECREATION CENTRE, LICKEY HILLS

A reserve of great natural beauty and 452 acres in extent has recently been acquired by the Corporation of Birmingham, nine miles from the city. The greater part of the site will be left as a natural park ; at one point, however, on the main road, the Recreation Centre shown above will be formed. The building marked A is an old inn which is to be converted into Refreshment Rooms, Club Rooms, and a Reading Room and Library.

Sanitary and beautiful homes for the people must replace the interminable rows of slate-lidded boxes of bricks, laid out without thought and care during the period of great industrial activity.

But housing schemes must not be discussed as if the only problems involved were the number of houses to be allotted to the acre, or whether or not the labourer needs a parlour. Because the working man seldom goes to church it must not be supposed



FIG. 89 L.C.C. WHITE HART LANE ESTATE,  
TOTTENHAM

View of Tower Gardens from Terrace. This estate was laid out by the L.C.C. for the accommodation of the working classes in the north and north-west district of London. The land for the scheme was purchased in 1901

that he has no spiritual needs. As Carlyle told our grandfathers, merely to provide the workman with a weatherproof shelter in which to eat and sleep and breed is but to give him what the domestic animals already have. His deepest need is beauty.

Herein is the highest function of the town-planner. In his creation of the 'city beautiful' he satisfies the human craving for beauty while providing for everyday material needs; so that his art is an ever-present influence in the lives of multitudes of men, for the beauty he creates is 'new every morning' to generation after generation. And of it more than of any other artist's creation it is true that

Its loveliness increases; it will never  
Pass into nothingness; but still will keep  
A bower quiet for us, and a sleep  
Full of sweet dreams, and health, and quiet breathing.

# INDEX

Figures in *Italics* denote Illustrations.

- Aberdeen, granite of, 132.  
 Abingdon, 38, 40, 46, 93.  
 Adam, Abbot, of Eynsham, 59, 60.  
 — Brothers, Architects, 92.  
 — Robert, Architect, 1728-92, 88.  
 Agora, 3, 4, 6.  
 Alberti, L. B., Architect, 1404-72, 27.  
 Aldershot, 36.  
 Alessi, Galeazzo, Architect, 1500-72, 29.  
 Alexander, Cities founded by, 4.  
 Alexandria, 5.  
 Alfred, King, and Oxford, 73, 74.  
 Amastris, 12.  
 America, Modern Town Planning in, 104.  
 Amiens, 27.  
 Amsterdam, Housing Schemes in, 120, 121.  
 Antinöe, 8, 14.  
 Antioch, 19.  
 Antwerp, 34.  
 Aosta, 6, 7.  
 Appian Way, Rome, 15.  
 Aristotle, 1, 2, 3.  
 Ashbourne, 49.  
 Asia Minor, Greek Cities founded in, 4.  
 Astbury, 48.  
 Athens, 2, 3.  
 Augustus, Work of, in Rome, 17, 20.  
 Australia, 121, 128.  
 Avenues. *See* Streets.  
 Avila, 22, 23.  
 Aylesbury, 49.  
 Aymer de Valence and New Town, 62.  
 Babylon, 2.  
 Bacon, Francis Lord, and St. Albans, 32.  
 Baldock, 59.  
 Baldwin, T., Architect, died 1820, 88.  
 Baltimore, U.S.A., 108.  
 Barnet, 53.  
*Bastides*, 24, 25, 65, 66.  
 Bath, 35, 86, 89, 132, 136.  
 Battle, 53.  
 Beaumaris, 65.  
 Bedford, 51.  
 Bedford Park Estate, London, 110.  
 Belvoir, 53.  
 Bennett, E. H., 108.  
 Bere, 66.  
 Berkhamstead, 44.  
 Bernini, G. L., Architect, 1589-1680, 29, 33, 85.  
 Berwick-on-Tweed, 22, 73.  
 Birmingham, 108, 118, 138, 145.  
 Boston, U.S.A., 108.  
 Boulogne, 27, 34.  
 Bournemouth, 36, 93.  
 Bournville, 112, 113.  
 Breslau, 26.  
 Bridges, Mediaeval, 40, 50.  
 Bridgnorth, 46.  
 Brighton, 93.  
 Bristol, 55, 88.  
 Britain, Modern Town Planning in, 108.  
 Bronze Age, Settlements in the, 6.  
 Brown, James, and Edinburgh, 88.  
 Bruges, 34.  
 Brussels, 21.  
 Buckingham, 51, 52.  
 Building Materials, 79.  
 Building Regulations, 4.  
 Burford, 74, 95.  
 Burgage Houses, 74.  
 Burnham, D. H., 106, 108.  
 Burns, John, 118.  
 Burton, Decimus, Architect, 1800-81, 93.  
 Bury St. Edmunds, 60.  
 Buxton, The Crescent, 88.  
 Bygrave, 42, 43.  
 Cadbury, George, and Bournville, 112.  
 Calais, 26, 27.  
 Canberr, 7.  
 Canberra, Yass-, 121, 122, 123.  
 Canute and Southampton, 53.  
 Cardiff, 118, 119.  
 Carlisle, 37, 82.  
 Carnarvon, 55, 65, 66.  
 Carr of York, Architect, 1723-1807, 88.  
 Cemeteries, 15, 17.  
 Centres, Distribution of, in Town Planning, 133, 137.  
 Chambéry, P. de, 32.  
 Charles the Bold, 51.  
 Charterville, 97.  
 Chepstow, 46.  
 Chicago, U.S.A., 106, 108, 109, 142, 143, 150.  
 — Exposition of, 1893, 106.  
 Chichester, 37, 135.  
 Cholsey, 44.  
 Cirencester, 37.  
 City Walls, 4, 6, 21, 24, 55.



- Civic Associations, 106, 128.  
 — Centres, 106, 108, 115, 137.  
 — Ornaments, 11, 147.  
 — Surveys, 129.  
 Cleveland, U.S.A., 106.  
 Clothall, 43.  
 Colchester, 37.  
 Coloniae of the Romans, 6.  
 Colonnaded Streets, 10.  
 Combe, 44.  
 Conway, 65, 67, 135.  
 Covent Garden Piazza, London, 84, 87.  
 Cracow, 26.  
 Craig, James, Architect, 1740-95, 88.  
 Cublington, 44.  
 Cyrene, 3.  
 Death-rate in Towns, 112, 114, 115, 123.  
 Delhi, 120, 121.  
 Detroit, U.S.A., 105.  
 Dorchester, 77.  
 Dover, 93.  
 Dresden, 101.  
 Dundee, 131.  
 Durham, 2, 46, 75, 77, 135.  
 Dutch Housing Schemes, 120.  
 Ealing, 116.  
 Eastleigh, 125.  
 Edinburgh, 15, 17, 19, 46, 48, 88, 90.  
 Educational Centres, 138.  
 Edward the Elder, Towns founded by, 51, 52.  
 Edward I, Towns founded by, 22, 25, 55, 65, 70.  
 Edward III and Calais, 26.  
 Egyptian Town Planning, 1, 2.  
 England, Modern Town Planning in, 108.  
 — Renaissance Town Planning in, 34, 80.  
 Ephesus, 5, 19.  
 Essen, Working-men's Colony in, 101.  
 Ethelfleda and Oxford, 53.  
 Ethered and Oxford, 74.  
 Etruscan Cities, 15.  
 Evelyn, Plan for rebuilding London, 87.  
 Eynsham, 59, 60.  
 Factory Areas, 110, 115, 121, 135, 138.  
 Finance in Town Planning, 132.  
 Flint, 65.  
 Florence, 21.  
 — Piazza della Signoria, 29.  
 Fora, Roman, 6, 9.  
 France, Renaissance Town Planning in, 32, 99.  
 — Modern Town Planning in, 99.  
 Garden Cities, 101, 105, 114.  
 — Suburbs, 116.  
 Gardens, Public, in Rome, 17.  
 Genoa — Strada Nuova, 29.  
 George III and Weymouth, 93.  
 German *Bastides*, 26.  
 Germany, Renaissance Town Planning in, 33.  
 — Modern Town Planning in, 101.  
 Gidea Park, 116.  
 Gladmouth, 52.  
 Glasgow, 93, 95, 118, 142.  
 Gloucester, 37.  
 Grainger, Richard, Architect, and Work at New-castle, 91.  
 Greek Town Planning, 2.  
 Griffin, Walter B., 121.  
 Gymnasia, 3.  
 Hampstead Garden Suburb, 116.  
 Hampton Court Palace Gardens, 146, 147.  
 Hanover, Bahnhofplatz, 104.  
 Hastings, 93.  
 Haussman, Baron, 99, 101.  
 Health, Factors of, 133, 145.  
 Henrichemont, 32.  
 Henry II and English Town Planning, 55.  
 Herodotus and the City of Babylon, 2.  
 Hertford, 51, 52.  
 Hill, Miss Octavia, 95, 121, 147.  
 Hippodamus, 3.  
 Holland, Housing Scheme in, 120.  
 Hope, Sir W. St. John, and Plan of Ludlow, 54.  
 Housing, 2, 133, 150.  
 Housing and Town Planning Act, 1919, 112, 119, 126.  
 Howard, Ebenezer, 114.  
 Hull, 68, 69.  
 Iffley, 44.  
 Individuality of Towns, 134.  
 Industrial Revolution, 93.  
 — Villages, 110, 116.  
 Insulae in Roman Plans, 6, 7.  
 Italy, Renaissance Town Planning in, 27.  
 — Modern Town Planning in, 104.  
 John, King, and Liverpool, 56.  
 Jones, Inigo, Architect, 1573-1652, 35, 85.  
 Kahun, 1, 2.  
 Karlsruhe, 33, 34, 101.  
 Karnak, 2.  
 Kensington Palace Gardens, 146.  
 Kingston-upon-Hull. *See* Hull.  
 La Garde, 24.  
 Lemercier, J., Architect, 1585-1654, 32.

- L'Enfant and Washington, 105.
- Le Nôtre and Garden Designs, Influence of, 33, 101.
- Le Poer, Bishop Richard, and Salisbury, 64.
- Letchworth, 115, 116, 117.
- Leverhulme, Lord, and Port Sunlight, 110.
- Lickey Hills, Birmingham, 150.
- Lincoln, 37, 135.
- Liverpool, 56, 108, 118, 138, 140, 141, 145.
- London, Bedford Square, 146.
- County Council Housing Scheme, 150, 152.
- Covent Garden Piazza, 84, 85.
- Evelyn's Plan of, 85, 87.
- Great Queen Street, 85.
- Kingsway, 118, 137.
- Leicester Square, 146, 147.
- Lincoln's Inn Fields, 85.
- New Coaching Roads, 92.
- 19th Century Improvements in, 93.
- Overcrowding in, 95.
- Parks of, 145.
- Roman, 37.
- Squares, 92.
- Thames Embankment, 118.
- View of, in 1616, 76.
- Wren's Plan of, 85, 86.
- West, 18th Century Improvements in, 91.
- Londonderry, 81, 82.
- Long Island, New York, 105.
- Long Stratton, 46.
- Louis XIV and Paris, 32, 99.
- Ludlow, 46, 53, 54, 60.
- Lynn, 52.
- Macedonian Age, Town Planning in, 3, 4.
- McKim, Charles F., 106.
- Maldon, 52.
- Malmesbury, 61.
- Manchester, 106, 127, 138.
- Manhâttan, 105.
- Mannheim, 34.
- Market Cross, 48.
- Market Place, 21, 24, 25, 38, 47, 48, 50, 55.
- Mediaeval Town Planning, 21.
- Mesopotamia, Early Cities in, 2.
- Michelangelo and Florence, 29.
- Miletus, 5.
- Ministry of Fine Arts, 129.
- Minster Lovel, 97.
- Monségur, 24.
- Montpazier, 25.
- Montreuil, 20.
- More, Sir Thomas, and *Utopia*, 27, 34.
- Municipal Government, 82.
- Ownership of Land, 102.
- Munich, Königsplatz, 104.
- Mytilene, 14.
- Nancy, 31, 33.
- Napoleon I, Town Planning under, 99.
- III, Town Planning under, 99.
- Nash, John, Architect, 1752-1835, 93.
- Newborough, 67.
- Newcastle-on-Tyne, 55, 76, 91.
- Newport, Isle of Wight, 61.
- New Town, Isle of Wight, 62.
- Newtown, Hants, 62.
- Nicomedia, 12.
- Northampton, 55.
- Norwich, 7, 45, 46.
- Nottingham, 52, 75.
- Nuneham, 44.
- O'Connor, Feargus, and National Land Company, 97.
- Olmstead, F. Law, 106.
- Open Spaces, 108, 144, 146.
- Orbiston, 97.
- Owen, Robert, 97.
- Oxford, 36, 52, 49, 73, 76, 81, 85, 91.
- Paine, James, Architect, 1716-89, 92.
- Palissy, Bernard, 32.
- Palladio, A., Architect, 1518-80, 32, 35, 85.
- Palmyra, 10, 11.
- Paris, 10, 21, 142, 144.
- Town Planning under Napoleon III, 98, 99.
- Parks of, 99, 145.
- Place de la Concorde, 98.
- Place des Victoires, 33.
- Place Vendôme, 33.
- Parker, Barry, and Raymond Unwin, 115.
- Parks, 108, 144, 146, 147.
- Parkways, 145.
- Parma, 6.
- Penn, William, and Philadelphia, 104.
- Pergamum, 5.
- Philadelphia, U.S.A., 104, 105, 106.
- Piræus, 3.
- Pittsburg, U.S.A., 106.
- Playfair, W. H., Architect, 1789-1857, 91.
- Playgrounds, 144, 148, 149.
- Poer, Bishop of Salisbury, 64, 65.
- Pompeii, 17.
- Portsmouth, 56, 57.
- Port Sunlight, 110, 111.
- Porticus Octaviae, Rome 10.
- Praeneste, 18.

- Preservation of Features,  
     135, 137.  
 Priene, 4, 5.  
 Processional Way, 2.  
 Public Health Acts, 109,  
     116.  
 Radnor, 45, 46.  
 Railway Stations, 104,  
     115, 140.  
 Ramsgate, 93.  
 Reading, 36, 85.  
 Recreation Centres, 11,  
     108, 144, 149.  
 Renaissance Town Plan-  
     ning in Italy, 27.  
 — — — — France, 32.  
 — — — — Germany, 33.  
 — — — — England, 34,  
     80.  
 Residential Areas, 110,  
     121, 138, 143.  
 Rheims, 101.  
 Rhodes, 3.  
 Rhuddlan, 65.  
 Richard I and Ports-  
     mouth, 56.  
 Richelieu, Cardinal, and  
     Bacon, 32.  
 —Town of, 30, 32.  
 Roman Baths, 11, 148,  
     150.  
 —Town Planning, 5.  
 Rome, 9, 10, 11, 12, 15,  
     17, 19.  
 —Piazza del Popolo, 28.  
 —Piazza to St. Peter's,  
     29, 85.  
 —Porticus Octaviae, 10.  
 —Farnese Palace, 28.  
 Rubbish Disposal, 15.  
 Ruislip, 116.  
 St. Albans, 47.  
 St. Gaudens, A., 106.  
 St. George, James, Archi-  
     tect to Edward I, 67.  
 St. Louis, U.S.A., 108.  
 Salisbury, 63, 65, 75.  
 Salt, Sir Titus, 110.  
 Saltaire, 110.  
 Salter, Rev. H. E., 73.  
 Sauveterre, 24, 25.  
 Scamozzi, V., Architect,  
     1552-1616, 32.  
 Segovia, Aqueduct, 13.  
 Selinus, 3, 4.  
 Sevenhampton, 79.  
 Sewerage, 11, 95.  
 Shaw, Norman, 110.  
 Sheffield, 108.  
 Shopping Streets, 75.  
 Shrewsbury, 45, 46, 51,  
     75.  
 Silchester, 7, 8, 36.  
 Sinope, 12.  
 Site Planning, 126.  
 —Nature of in Town  
     Planning, 133.  
 Sitte, Camillo, 101.  
 Slums, 3, 77, 121, 130.  
 Southampton, 53, 55, 75,  
     83.  
 Stamford, 51, 52.  
 Streets, Setting out of,  
     138, 140, 141.  
 Street Widening, 142.  
 Sweden, Town Planning  
     in, 97.  
 Tewkesbury, 61.  
 Thaxted, 78.  
 Thurii, 3.  
 Tingad, 7.  
 Town Halls, Develop-  
     ment of 16th Century,  
     49.  
 Town Planning Act, 1909,  
     118.  
 Traffic Lines, 138, 143.  
 Transport, 133.  
 Tremadoc, 93.  
 Triumphal Arches, 10.  
 Tunbridge Wells, 93.  
 Turin, 7.  
 Ulm, and Municipal  
     Ownership of Land,  
     102.  
 Underground Railways,  
     142.  
 Underground Tunnels,  
     142, 143.  
 Unwin, Raymond, and  
     Barry Parker, 115.  
 Verniquet and Plan of  
     Paris, 99.  
 Vienna, 21, 101, 103.  
 Village Green, 47, 50, 78.  
 Villefranche, 24.  
 Vilna, 26.  
 Vitruvius, Roman Archi-  
     tect of 1st Century A.D.,  
     12, 32.  
 Vitry-le-François, 32.  
 Wallingford, 50, 77.  
 Wallington, 43.  
 Wareham, 74.  
 Washington, 105, 106,  
     107, 145.  
 Water Supply, 5, 11, 12,  
     39, 83.  
 Weymouth, 93.  
 Wigmore, 52.  
 Winchelsea, 70, 71.  
 Windsor, 3, 46.  
 Witney, 50.  
 Wokingham, 65.  
 Wood, John, of Bath,  
     Architect, 1705-54, 88.  
 Woodstock, 56.  
 Worthing, 93.  
 Wren, Sir Christopher,  
     1632-1723, 35, 85, 126.  
 Wroxeter, 36.  
 Wusin, Abbot, of St. Al-  
     bans, 47, 52, 58.  
 Yarmouth, 80.  
 Yarnton, 42.  
 Yass-Canberra, 121, 122,  
     123.  
 York, 37, 55, 68, 135.  
 Zones, 103, 138.

















